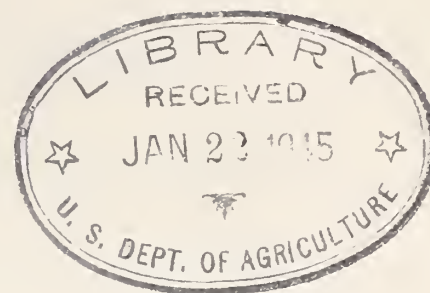


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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics



LAND-USE ADJUSTMENT IN THE BUFFALO CREEK GRAZING DISTRICT
YELLOWSTONE COUNTY, MONTANA

By
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INTRODUCTION

The homestead policy of the United States over a period of 50 years contemplated and promoted a system of farming ill-suited to the

^{1/} Since completion of this study, Mr. Marshall has become Louisiana representative of the Bureau of Agricultural Economics.

semi-arid region of the Great Plains. In the rush of westward settlement millions of acres suited only to extensive use, such as grazing, have been occupied by families in tracts of 160, 320, or 640 acres whereas perhaps four sections represent the minimum requirements for permanent family subsistence. The results of these policies have become manifest in the Great Plains in severe soil erosion and range depletion, repeated crop failure, and instability of farming and ranching operations as a consequence of failure, abandonment, and migration.

The problem of readjustment to a more secure agriculture, when based largely upon range-livestock, is one with which the individual as such is powerless to cope. Needing more land, he finds himself circumscribed by neighbors whose need is as desperate as his own. The resultant struggle for survival has often taken the form of a ruthless competition for land. No livestock operator can hope to establish his operating unit on a permanent basis when his control of the land is constantly threatened by the competitive bidding of speculative "suitcase" farmers, or migratory stockmen who have no interest in the permanence of the range. Dry-land farmers aiming toward the attainment of some degree of permanence in their operations face similar hardships in the competition for land by speculative "in-and-out" farmers. Under a more orderly system of utilization there might be sufficient land to permit all the operators to establish reasonably stable units.

It is becoming increasingly apparent to many farmers and ranchers so situated that the manner in which neighboring land is used has a significant bearing upon the availability of land for their operations, the price they must pay for its use, and the extent and nature of community facilities that will be demanded and which they will be required to support through taxation.

Such considerations as these call attention to the mutual interests which individual landowners and operators have in land use and occupancy in their community. In many cases these mutual interests lead to demands for formal arrangements to provide for cooperative action in directing land use and occupancy along lines which appear to be in the best interests of the community. Democratic land-use regulations or control measures are put into effect on the premise that in some phases of land utilization the community interest--the sum total of the interests of all individual landowners and operators in the community--is paramount to that of those individual operators who would use their land in a manner clearly detrimental to neighboring operators.

As problems resulting from improper land utilization in many sections of the country have become acute, various attempts have been made to devise means of alleviating distressed conditions and of preventing a continuation of abuses. The most important of these adjustment measures are the passage of rural zoning ordinances, formation of soil conservation districts, public land purchase, and the formation of cooperative grazing associations as organized in Montana and other range States. Governmental programs pertaining to agriculture, such as the

crop adjustment program of the Agricultural Adjustment Administration, the rehabilitation loans and grants of the Farm Security Administration, and other programs, while perhaps not specifically designed to effect adjustments in land use, nevertheless have profound influence in this direction. Since these many and only casually related programs operate in the same areas, it appears necessary that the results and appropriate functions of each, especially in their inter-relationships, should be carefully determined in order that efforts toward sound land-use adjustment may proceed harmoniously toward a common goal.

It is the objective of this study to make a beginning toward such an evaluation with respect to a specific area. Since a number of cooperative grazing associations, organized under State enabling legislation, have been operating in Montana for some time and are likely to continue, this study is centered around the operations of one of these associations. The objective is to analyze the accomplishments of the Buffalo Creek Cooperative Grazing Association and to appraise its significance as a means of achieving desirable land-use adjustments. The relationship of grazing districts to other programs and the possibilities of additional measures for supplementing or complementing their activities will likewise be explored. The conclusions developed on the basis of detailed study in the Buffalo Creek Grazing District should have some application to land-use adjustment problems in other areas in the Northern Great Plains where similar problems exist.

The Buffalo Creek Grazing District consists of 551,350 acres of land in the northeastern part of Yellowstone County in south-central Montana (fig. 1). The grazing district is bounded by an irrigated farming area along the Yellowstone River on the south, by dry-land farming communities on the west, by the county boundary along the southern fringe of the Bull Mountains on the north, and by the Alkali Creek Grazing District on the east. Approximately 25,500 acres of land in the southwestern corner of the Buffalo Creek Grazing District are under irrigation. The statistical and background sections of the study are confined to the dry-land area, since it is here that the most acute land problems have developed and the need for adjustment is most urgent. Establishment of proper complementary interrelationships between irrigated farming and ranching operations in the district represents an essential feature of the ultimate establishment of a stable system of agriculture.

INSTABILITY OF LAND USE AND TENURE IN THE BUFFALO CREEK GRAZING DISTRICT

Land use and tenure by the white man in the Buffalo Creek grazing district have been characterized by sweeping changes and extreme instability since the territory was first opened, by subjugation of the Indians, about 1880. The white man's trial-and-error attempts to adapt successive systems of land utilization to the conditions prevailing in the area have resulted in a number of major shifts in uses and ownership of land, each resulting in failure. The present situation represents a transition period during which another such shift is occurring. Past failures, stemming from mistaken public land policy and unwise utilization of the land resources, point the way to more successful and stable land use in the future.

Succession of Major Land Uses 2/

Early Livestock Industry

The first appearance of the livestock industry in eastern Montana flared up and virtually died out in the short space of 7 years. The first large herds of cattle were brought in from Texas in 1880, and in the short space of 3 or 4 years thereafter the ranges were stocked to capacity. Most of this early expansion was accomplished by the large land and cattle companies, financed by Eastern and European capital, and was highly speculative in nature. The early cattle industry was based on year-round grazing on the open, unfenced public domain. Only enough hay was produced each year to winter saddle and work stock. The principal income was from the sale of 3- and 4-year old grass-fat steers shipped each fall. The sheep industry developed at the same time as cattle ranching, many of the stockmen running both sheep and cattle. Like the cattle industry, sheep ranching depended entirely on grazing on the open range with little or no supplementary winter feeding.

Heavy stocking and a summer of drought preceded the exceptionally long and severe winter of 1886-87. Thin cattle went into the winter on short grass, with disastrous results to the livestock industry. Death losses were extremely high, in some cases entire herds being lost. Many of the large livestock companies quit business. This winter marks the end of the old-time open range system of livestock production, for it brought out the two fundamental weaknesses of the system, lack of grazing control and lack of supplementary winter feed. During the subsequent period, which lasted until about 1909, herds were reduced to about what each operator thought could be wintered safely on available supplies of

2/ The brief historical sketch presented in this section is based on accounts in: Bancroft, Herbert H., History of Washington, Idaho and Montana, 1845-1889; Miller, Joaquin, An Illustrated History of Montana; and Stuart, Granville, Forty Years on the Frontier.

MONTANA GRAZING DISTRICTS

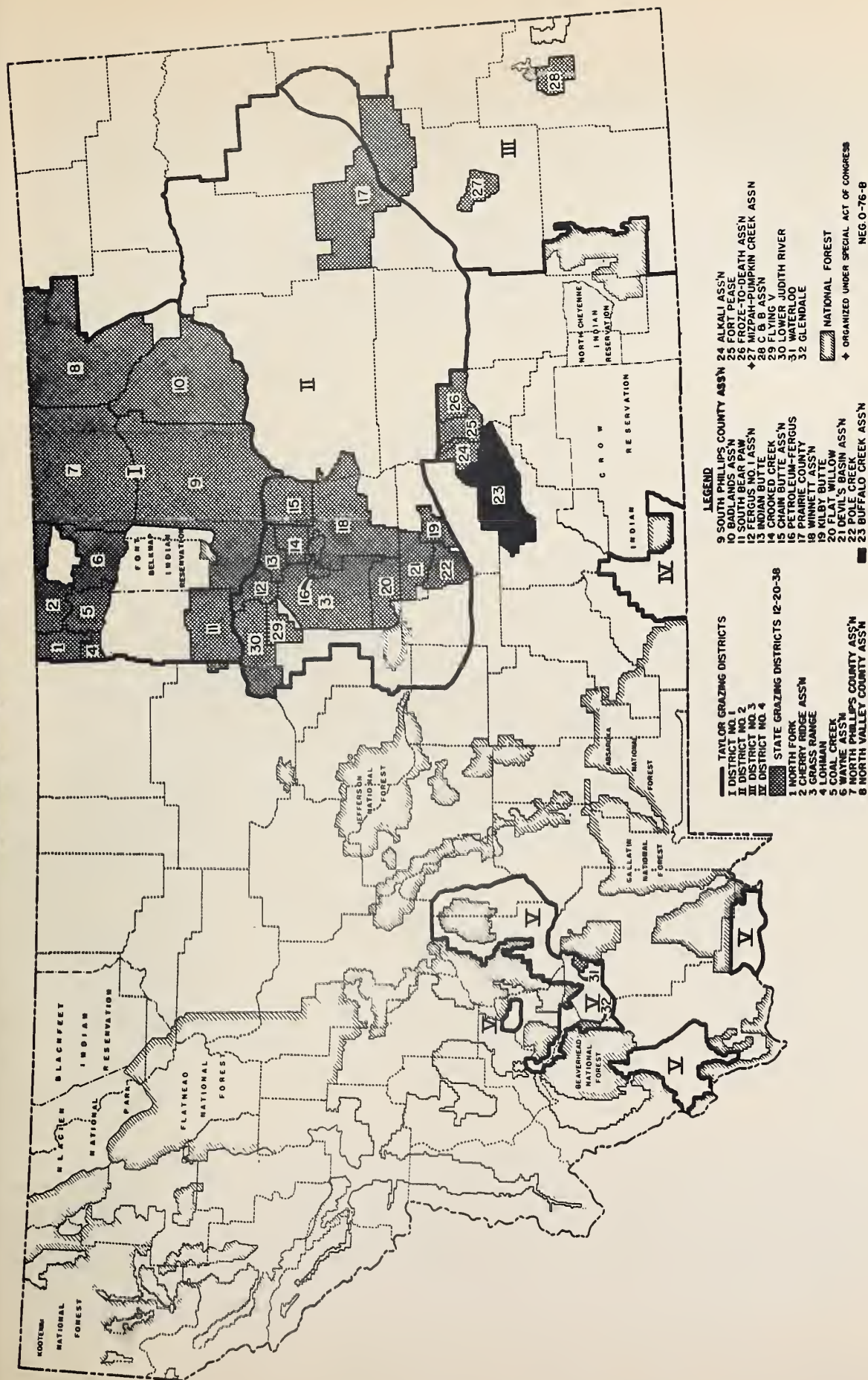


Figure 1. - Location of Buffalo Creek Grazing District in relation to other grazing districts in Montana.

supplemental feed. Hay meadows were developed, and many sheepmen started building sheds for winter protection. Small, individually-owned operating units replaced many of the large speculative livestock companies that passed out of the picture after the disastrous winter of 1886-87.

Whatever prospects of permanence this more self-sufficing type of livestock industry may have had, if it had been permitted a free field for development, it went down under the flood of homestead settlement which set in just prior to the World War.

Entry of Crop Farming

Prior to the passage of the Enlarged Homesteads Act of 1909, homesteading in eastern Montana proceeded relatively slowly, being confined primarily to tracts used as ranch headquarter sites or hay lands. The arrival after 1909 of large numbers of dry-land farmers who settled on small farms of 160 or 320 acres had far-reaching effects on the livestock industry. As more and more of the better land was fenced and broken, stockmen were forced back upon the rougher and poorer land of lower livestock-carrying capacity. Some stockmen in desperation attempted to lease and purchase grazing lands from the railroad and homesteaders, but the ranchers were at a distinct disadvantage, because incoming settlers often were willing to pay more for land that had possibilities for cash crop production than it was worth as grazing land. Prior to this time, stockmen had rarely attempted to secure title to any lands except their headquarter sites, hay meadows, and occasionally water holes. This revolutionary change from grazing on public lands to grazing on privately-owned lands meant increased capitalization and higher fixed charges in the form of rent, taxes, and interest.

Before the advent of wheat farming, local governmental services were few and taxes low. The arrival of large numbers of homesteaders increased the need for local governmental services, especially those for roads, schools, and charities. To supply this need, many local governmental units were organized and large debt burdens assumed, often with little regard to the long-time taxpaying ability of the land. As a result of these factors, taxes per acre more than doubled between 1913 and 1921.

Cash crop farming did not reach significant proportions in the Buffalo Creek District until about 1914. Relatively high yields on newly broken sod as a result of several years of above normal precipitation, together with high prices for wheat as a result of the World War, led to a rapid expansion of cash crop production in the area.

Abandonment of Crop Land and Migration of Population

The Buffalo Creek Grazing District lies in one of the lowest rainfall belts in the State. The average annual precipitation at Billings, just outside the district, is about 13 inches. Precipitation at Billings was 18.52 inches in 1915 and 16.01 inches in 1916. It is

significant that the great expansion in cash grain farming came during a period of above-normal rainfall. Likewise, it was perhaps to be expected that a great amount of farm abandonment should have accompanied subsequent periods of low rainfall. There have been two such periods of abandonment in the Buffalo Creek District during the past 25 years, the first and most important accompanying a 4-year period of exceedingly low precipitation beginning with the serious drought of 1919. Farm abandonment was temporarily arrested by a return of more favorable rainfall beginning in 1923. The second period of abandonment attended the recent prolonged drought between 1929 and 1938. The average yield per seeded acre of wheat in the entire dry-land portion of the district was only 3.99 bushels for the 8-year period 1928-35. 3/

Local residents estimated that at the height of settlement, 1914-16, there was an average of at least one operator per section in the dry-land portion of the district, or roughly about 800 operators. Estimates based on census data indicate that there probably were not more than 430 to 450 operating units in this area in 1920, that is, shortly after the first period of abandonment got under way. The United States Census of Agriculture shows decreases of 48 percent in number of farms and 44 percent in crop acreage between 1929 and 1934. According to a farm-and-ranch survey conducted as part of the Federal Land-Use Adjustment Project, there were only 115 operators during the 1937 season, 22 of whom left the area before the end of the 1938 season. There are now only about one-fifth as many operators in the area as there were in 1920.

Utilization of Range by Migratory Stockmen

After the wave of settlement and farming receded, the operators remaining in or near the area began using the abandoned lands for grazing, sometimes by leasing, although wherever possible without paying for the use of the land. Beginning about 1930, migratory stock, principally large sheep bands, were brought into the area, the usual practice being to gain control of several widely scattered tracts and to graze on all lands between these, not only the open or abandoned lands which local operators had been accustomed to use free of charge, but also the lands owned or actually leased by resident operators. In the resulting competition for grass, most operators, residents and migrants alike, stocked too heavily and too early in the season with the result that large areas of range were seriously depleted.

Some local operators who had available cash or credit attempted by purchase of county tax-deed and absentee-owned lands to gain control of blocks of range large enough to be fenced economically. However, this proved unsatisfactory because taxes, based on earlier estimates of farm value, were usually higher than the land was worth for grazing.

3/ Calculated from records obtained by the Yellowstone County Agricultural Conservation Association.

Changes in Land Ownership

Alienation of Public Domain

Originally, the land now within the boundaries of the Buffalo Creek Grazing District was entirely public domain, being a part of the Louisiana Purchase; but at the present time, only 1.5 percent of the area remains in this status. All of the district lies within the limits of the Northern Pacific Railroad land grant made in 1864, and hence the railroad at one time held title to approximately half of the area. The State of Montana secured about 6 percent of the total area for educational purposes under the Enabling Act, and an additional 8,500 acres under provisions of the Carey Act.

Patents issued under the various Homestead Acts accounted for the disposal of 225,000 acres of public domain in the dry-land portion of the district, but for less than 2,000 acres in the irrigated portion where most of the land had been granted to the State and the railroad prior to the big influx of settlers (table 1). Since most of the entries were made from 1909 to 1916, they were predominantly for 320-acre homesteads, with a scattering of 160-acre homesteads with enough additional entries to bring the total for each entryman up to 320 acres. There were very few 640-acre stock-raising homesteads filed in this area, since most of the land had been taken up prior to the time the Stock Raising Homestead Act was passed in December 1916. There was a very high rate of relinquishment and cancellation of desert land entries, patents being issued on only 18 percent of entries in the dry-land portion of the district, and 44 percent of those in the irrigated portion.

By 1937, the railroad had completely disposed of granted lands in the irrigated area and about 77 percent of those in the dry-land portion. The State has been able to dispose of only a small portion of its school grants, 320 acres in the dry-land portion and 480 in the irrigated portion. This is due to the fact that the Enabling Act and the State constitution imposed a minimum sale price of \$10 per acre, which is probably much more than most of the lands are worth. ^{4/}

Encumbrance and Foreclosure

Probably well over half of the land in private ownership in the area has been under mortgage at some time during the past 25 years. ^{5/} On June 30, 1936, there were only 38,231 acres in the dry-land portion of the district under mortgage, or about 9 percent of the area which has been in private ownership and available to mortgage. Foreclosures accounted for most of the balance of lands which have been mortgaged.

^{4/} The Enabling Act was amended by Congress in 1932 to permit the sale of school lands, classified as grazing, at a minimum of \$5 per acre.

^{5/} Land in private ownership excludes the present holdings of the Northern Pacific Railroad, the public domain, and State granted lands.

Table 1.--Disposition of Public Domain in What is Now the Buffalo Creek Grazing District, up to March 1, 1937 ^{1/}

Disposition ^{2/}	Dry-land portion		Irrigated portion	
	Acres	Percent	Acres	Percent
Land grant to Northern Pacific Railroad	262,545	49.9	12,118	47.6
Grants to State:				
School lands	26,700	5.1	1,920	7.5
Desert (Cary Act) lands	-	-	8,545	33.6
Sales:				
Isolated tracts	891	.2	239	.9
Preemption, patents issued	316	.1	-	-
Patents issued on desert land entries	1,318	.3	640	2.5
Coal lands patented	680	.1	-	-
Patents issued under various homestead acts	225,386	42.8	1,927	7.6
Remaining in public domain, March 1, 1937	8,045	1.5	80	.3
Total area	525,881	100.0	25,469	100.0

^{1/} Compiled from plat books of the General Land Office, U.S. Department of the Interior, Washington, D. C.

^{2/} All figures given are net--that is, allowances are made for relinquishments and cancellations.

A total of 135,796 acres in the district have been foreclosed upon one or more times since 1910 (table 2). This acreage represents over 30 percent of the area that has been in private hands. Eighty percent of the mortgages foreclosed were made during the period from 1916 to 1919, while the great majority of foreclosures occurred in the 5-year period, 1922-26.

Some estimate of the degree of speculation in farm mortgages which prevailed may be gathered from the fact that 46 percent of the 350 mortgages that have been foreclosed on land in the dry-land portion of the district were transferred or assigned to other investors, some being assigned as many as three or more times. Approximately three-fourths of all assignments were made to residents of Middle Western States who had no way of knowing the true worth and character of the land pledged to secure their investments. This use of assignments encouraged over-lending and resulted in loss both to the borrowers and to the investing individuals who were later forced to foreclose. For the most part, these investors--now nonresident owners--still do not realize that they have more invested in the land than it is worth. This condition gives rise to many problems whenever local operators or the Buffalo Creek Cooperative Grazing Association attempt to lease these lands for grazing.

Table 2.--Foreclosures and Assignments: Acreage Foreclosed 1910-36,
by Type of Investing Agency at the Date of Mortgage and
at the Date of Foreclosure Action 1/

Type of agency	Acreage under mortgage		Number of mortgages foreclosed	
	To mortgagees	To complainants	Total	Assigned
	at date of mortgage	at date of foreclosure		prior to foreclosure
	Acres	Acres	Number	Number
Individuals	18,523	48,068	43	22
Land investment and mortgage companies	58,545	38,684	159	101
Commercial banks	37,346	26,102	92	38
Federal land banks	17,205	17,205	44	-
Insurance companies	1,943	2,863	7	-
Other corporations	480	1,120	2	1
State of Montana	1,754	1,754	3	-
Total, all agencies	135,796	135,796	350	162

1/ Compiled from mortgage record books of the county clerk and recorder of Yellowstone County, Montana.

Present Diffusion of Land Ownership

As a direct consequence of migration from the area, mortgage foreclosure and farm abandonment, only one-eighth of the land area of the district is owned by resident operators. Seven-eighths of the land, or 460,880 acres, is owned by 62 corporations and 416 individuals in 26 States and 2 foreign countries (table 3).

In 1937, approximately one-fourth of the land was owned by public agencies, another fourth by corporations, and over one-third by individuals who either resided in other parts of Montana or were nonresidents of the State. Most of the publicly-owned land was held by the county and the State, public domain being relatively unimportant. Among the corporations, the Northern Pacific Railroad was the largest owner, its holding amounting to an eighth of the total area. The various land and investment agencies held about 15 percent of the area. A total of 521 individuals owned slightly less than half of the land. Of this group, 155 lived elsewhere in the State, while 261 resided in 27 States and 2 foreign countries. Almost half of the latter group were residents of 4 Middlewestern States (Illinois, Iowa, Minnesota, and Wisconsin) and almost a fifth were residents of the Pacific Coast States (California, Oregon, and Washington).

Problems growing out of this widely-diffused ownership are made worse by the fact that ownership tracts are small and intermingled, as will be seen in Fig. 2, which shows the ownership pattern as of March 1937. The high ratio of landowners to resident operators (nearly 6 to 1) makes land-use control in the district extremely difficult. In order to secure an economic unit for range livestock production, operators must use land belonging in many cases to 6 or 8 different agencies and individuals. Since many of these absentee owners, ill-informed as to the productive value of their holdings, refuse to lease their lands at rates the operators can afford to pay and many others cannot be located, legal control of much of the land has been virtually impossible of attainment. This situation encourages competitive overgrazing with consequent insecurity of the entire livestock industry in the area, and serious depletion of the range resources.

Tax Delinquency and Reversion

Tax delinquency has long been a serious problem in the dry-land portion of the Buffalo Creek Grazing District. Only 62.6 percent of the acreage remaining on the tax rolls had no outstanding delinquent taxes on July 1, 1936. Over 15 percent of the acreage was delinquent for 5 years or more, most of this land being subject to tax deed (fig. 3). In addition, almost 52,000 acres had already been rendered non-taxable by virtue of the county taking tax deed, ^{6/} while a few months later the county acquired tax deeds to an additional 43,000 acres in the dry-land portion of the district.

^{6/} Over 4,300 acres were tax-exempt as a result of the State acquiring title through mortgage foreclosures.

Table 3.—Classification of Land Ownership in the Dry-Land Portion
of the Buffalo Creek Grazing District, as of March 1,
1937 ^{1/}

Class of ownership	Acreage owned		Number of owners
	Acres	Percent	Number
Public agencies:			
United States (public domain)	8,045	1.5	1
State of Montana	50,739	5.9	1
County (mainly tax-reverted lands)	90,720	17.2	1
Other public agencies	360	.1	2
Total	129,864	24.7	5
Corporate groups:			
Railroad	65,874	12.5	1
Land investment and mortgage companies	39,703	7.6	32
Commercial banks	6,993	1.3	12
Insurance companies	4,521	.9	6
Federal land bank	20,867	4.0	1
Operating livestock companies	2,889	.5	1
Religious, educational, and fraternal groups	2,580	.5	7
Other corporations	3,194	.6	2
Total	146,621	27.9	62
Individuals:			
Owner-operators	64,998	12.4	105
Residents not on the land	74,835	14.2	155
Non-residents of Montana	103,563	20.8	261
Total	249,396	47.4	521
Total, all ownership classes	525,881	100.0	588

^{1/} Compiled from county assessor's ownership plat books of Yellowstone County, Montana.

The various classes of ownership differed greatly in taxpaying status. The railroad lands were practically free of delinquent taxes, while at the other extreme, nonresident individuals and several classes of corporate investment agencies were relatively poor taxpayers, with only half of their lands free of tax liens and about 20 to 40 percent of them delinquent for 3 or more years. Owner-operators, as a class, were fairly good taxpayers, with almost 70 percent of their lands free of tax liens and with only 11 percent delinquent for 3 or more years (table 4).

By June 30, 1938, the county had acquired 94,800 acres of land by tax title and 2,661 acres by gift or other means in the dry-land portion of the grazing district. With the exception of one tract taken in 1923, all of this land has been acquired since 1929 and most of it was taken during 1930 and 1936. About 28 percent of this tax-deed land was owned by investment corporations at the time of tax-deed action; 20 percent by nonoperator residents of the State, and 40 percent by nonresidents. Only 11.6 percent was owned by resident operators (table 5).

Until the very recent establishment of the Buffalo Creek Cooperative Grazing Association (to be discussed in a later section of this report), the county found it virtually impossible to dispose of its lands. The sale procedure provided by law, which was the only outlet, broke down for lack of buyers. Since 1929, the county has repeatedly offered for sale the bulk of its land holdings, aggregating 97,461 acres in 1938. Of the total acreage, only 17,294 acres (18 percent) have been sold by the county either for cash or under sales contract, while deeds have been issued for only 6,912 acres (7 percent). The acreage for which sale contracts have been canceled because of defaulted payments or subsequent tax delinquency is almost as large as the acreage of completed sales. On June 30, 1938, only 4,052 acres, or slightly over 4 percent, were under sales contract. It is evident from the above figures that sales of county land in an area of high abandonment are almost out of the question.

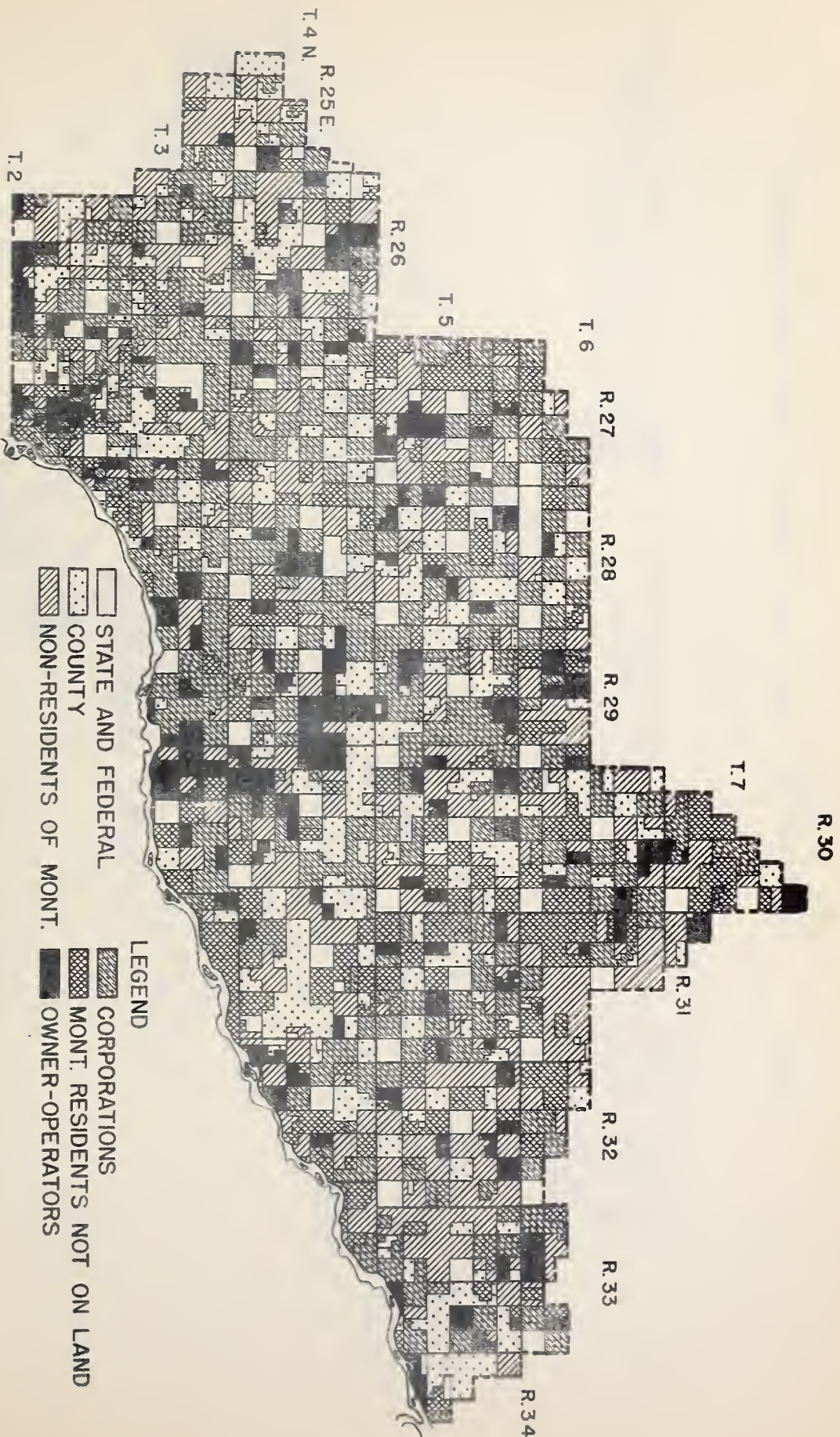


Figure 2. - Land ownership in the Buffalo Creek Grazing District, March 1, 1937.



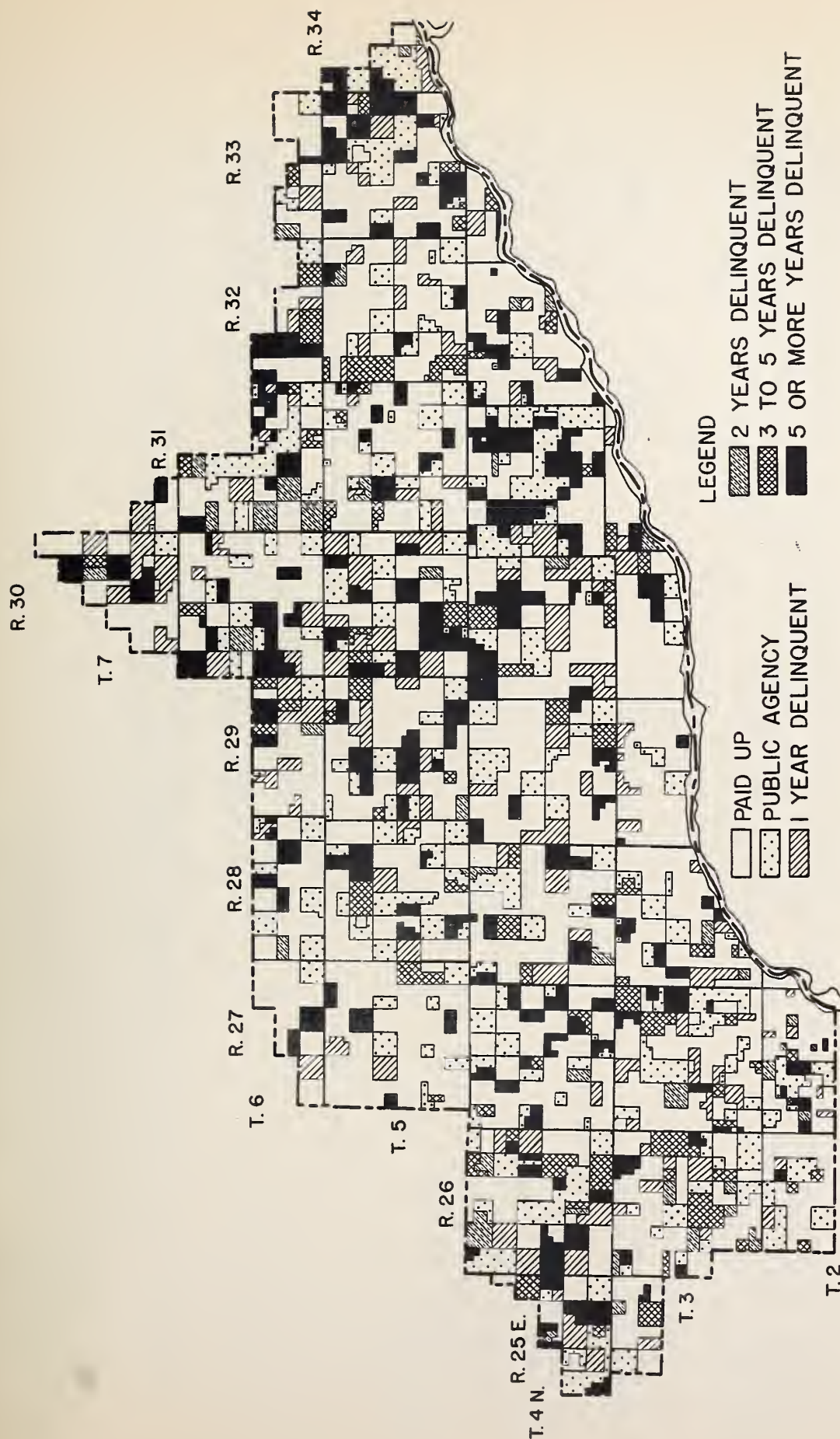


Figure 3. - Tax status of land in the Buffalo Creek Grazing District, July 1, 1936.

Table 4.---Comparison of Tax Status of Lands in Various Ownership Classes in Dry-Land
Portion of Buffalo Creek Grazing District, July 1, 1936 1/

Class of ownership	Percentage of total acreage in each ownership class						
	No delinquency	Delinquent 1 year	Delinquent 2 years	Delinquent 3-4 years	Delinquent 5 years	Delinquent or more	
	Percent	Percent	Percent	Percent	Percent	Percent	
Corporate:							
Railroad	99.5	-	.5	-	-	-	
Land investment and mortgage companies	61.6	7.5	4.0	9.8		17.1	
Commercial banks	39.9	15.4	-	23.9		20.8	
Insurance companies	44.7	-	8.8	39.4		7.1	
Federal land bank	35.5	36.9	1.4	1.8		24.4	
Operating livestock companies	22.2	77.8	-	-		-	
Religious, educational, fraternal, etc.	34.1	24.7	-	18.6		22.6	
Miscellaneous corporations	70.0	5.0	5.0	20.0		-	
Individuals:							
Owner-operators	68.9	17.7	2.4	4.0		7.0	
Residents not on the land	59.9	11.9	4.7	7.4		16.1	
Non-residents of Montana	53.0	9.9	3.1	9.3		24.7	
Average, all ownership classes	62.6	12.0	2.8	7.0		15.6	

1/ Compiled from county treasurer's delinquent tax rolls, Yellowstone County, Montana.

Table 5.--Ownership at Time of Forfeiture of Tax-Deed Land
Acquired by Yellowstone County Within Dry-Land
Portion of the Buffalo Creek Grazing District up
to July 1, 1938 1/

Ownership classification	Acres	Percent
Corporate:		
Land investment and mortgage companies	13,675	14.4
Commercial banks	5,848	6.2
Federal land bank	5,896	6.2
Other corporations	1,280	1.4
Total	26,701	28.2
Individual:		
Owner-operators	11,023	11.6
Residents not on the land	19,240	20.3
Nonresidents of Montana	37,836	39.9
Total	68,099	71.8
Total tax-deed land taken by county	94,800	100.0

1/ Compiled from county clerk and recorder's tax-deed land card index, delinquent tax rolls, tax certificate record, and tax-deed register, Yellowstone County, Montana.

With the organization of the Buffalo Creek Cooperative Grazing Association, there was created a corporate body capable of responsible administration of the county lands, paying a reasonable annual fee to the county for their use. Recently-enacted State legislation permits the county to lease its grazing lands for a considerable period (see subsequent section on laws), and the county has eagerly made use of this outlet. Of the 90,549 acres held by the county in the dry-land portion of the district in June 1938, 86 percent was under lease to the Buffalo Creek Cooperative Grazing Association, 4 percent under sale contracts, 3 percent under lease (or held adversely) by resident operators, and 7 percent not under any formal control (table 6 and fig. 4). The land not under control represents mainly canceled sale contracts and leases to local operators who have recently left the area. Under the leasing arrangements with the grazing association, this land automatically goes under lease to the association if not otherwise disposed of prior to the beginning of each grazing season. If it were not for the large acreage leased to the grazing association, these lands would form for the most part a sort of "no man's land" to be used or abused free of charge by anyone who came along, at the same time providing but little revenue for local government.

Table 6.—Acquisition and Disposition of Lands Acquired by Yellowstone County Within Boundaries of the Buffalo Creek Grazing District as of June 30, 1938 ^{1/}

Item	: Acreage in : : dry-land : : portion : : <u>Acres</u> :	: Acreage in : : irrigated : : portion : : <u>Acres</u> :
Acquired (1922-1938):		
By tax deed	: 94,800 :	: 4,337
By gift, devise, and other means	: 2,661 :	: 165
Total acquired	: 97,461 :	: 4,502
Disposition:		
Sales contracts, deed issues	: 6,912 ^{2/} :	: 379 ^{2/} :
Under sale contracts	: 4,052 :	: 1,552
Leased to Buffalo Creek Grazing Association	: 77,724 :	: 2,271
Leased to Alkali Creek Grazing Association	: 160 :	: -
Leased (or held adversely) by operators	: 2,627 :	: -
Not under any formal control	: 5,986 :	: 300
Total land under deed (June 30, 1938)	: 90,549 :	: 4,123

^{1/} Compiled from county clerk and recorder's tax-deed land card index, delinquent tax rolls, tax certificate record, and tax deed register, Yellowstone County, Montana.

^{2/} An additional 6,330 acres in the dry-land portion and 240 acres in the irrigated portion were entered under sales contracts, but these contracts have gone into default and have been canceled. These lands are now included in lands leased.

Present Land Use

Extent and Nature of Cash and Feed Cropping

Present land use of the dry-land part of the Buffalo Creek Grazing District is shown in table 7. It is significant that less than 5 percent of the total area is used as cropland and that over 86 percent is either native range or formerly cultivated lands which have reverted to grass.

Table 7.--Land Use in the Dry-Land Portion of the Buffalo Creek Grazing District, Season of 1937 1/

Land use	: Acreage in : each use	: Percentage in : each use
Cropland	: 24,430	: 4.7
Abandoned cropland <u>2/</u>	: 46,440	: 8.8
Pasture and open range <u>3/</u>	: 455,011	: 86.5
Total area	: 525,881	: 100.0

1/ Estimated from land-use maps prepared in 1937 by the Land Use Adjustment Project of the Soil Conservation Service (LA-MT-38-23), and grazing surveys conducted in 1936 and 1937 by the Agricultural Adjustment Administration for the range program in Yellowstone County.

2/ Includes only the abandoned cropland on which no distinctive grass cover has been reestablished.

3/ Includes lands formerly in cultivation which have reverted to grass.

The small amount of land now remaining in crop production will probably be decreased even more as a result of the Federal land acquisition program and the restoration land program of the Agricultural Adjustment Administration. This land has been used principally for wheat, but the results obtained have not been encouraging. The average yield per seeded acre for the 8-year period 1928-35 was less than 4 bushels. In fact, there has not been produced what might be considered a "fair" crop since 1927. Very little land of this type has been used for any feed crop, other than wheat. Data compiled by personnel of the Federal purchase project, indicate that only 340 of the 24,430 acres of cropland is being used for forage crops. Local people have pointed out that other feed crops are even less likely to produce a crop in this area than is wheat. It would seem, then, that winter feed production in the dry-land part of the district is practically out of the question except in those cases where flood irrigation systems might be installed.

Types and Carrying Capacity of Range

The Agricultural Adjustment Administration has made grazing surveys on about 34 percent of the dry-land area. About 90 percent of

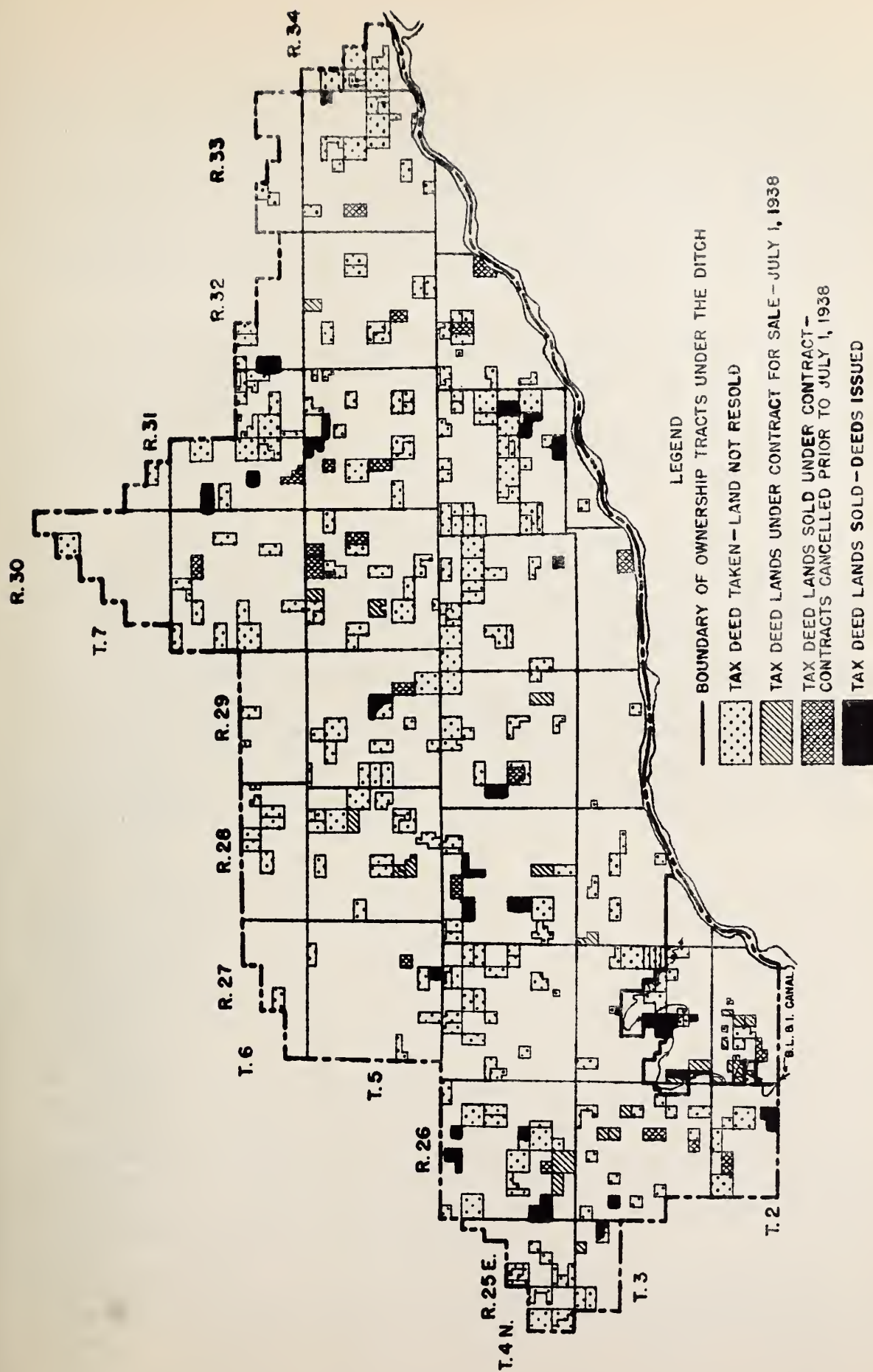
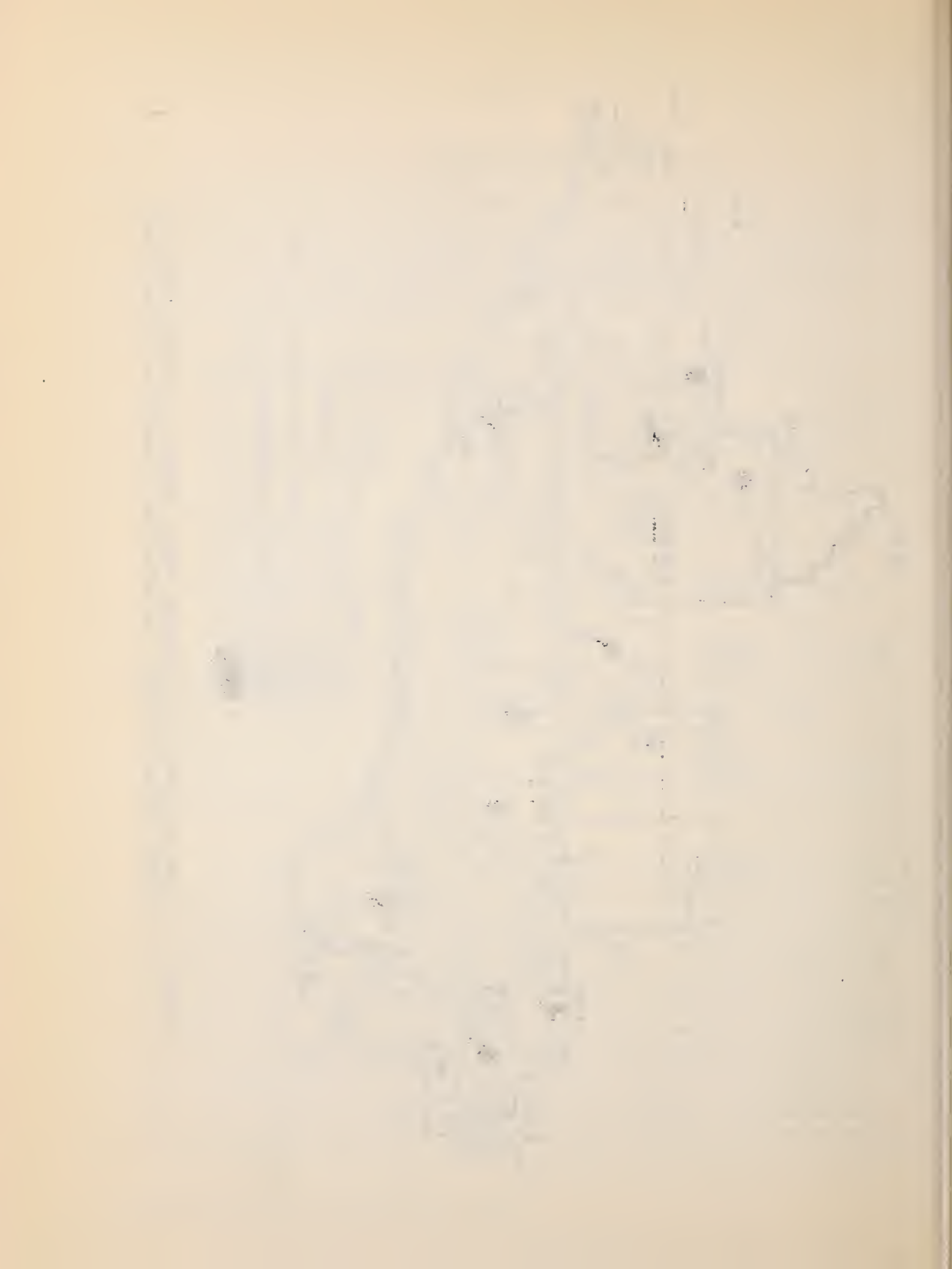


Figure 4. - Land acquired by Yellowstone County through tax deeds in Buffalo Creek Grazing District, and subsequent disposition of such land.



the area surveyed is classified as "grassland", "sagebrush", and "conifer" types. The conifer type is, for the most part, the rough land on which there is a thin stand of yellow pine and is found in various parts of the district, although most lands of this type are located in the northern part near the base of the Bull Mountains. Grassland and sagebrush types are found interspersed throughout the area. These three types contain practically all land in native sod, and account for 96 percent of the livestock-carrying capacity computed for the area surveyed.

The most important forage plants occurring in the area are the wheat grasses, grama grasses, and niggerwool. Needle grasses, which are of much lower forage value than the above species and are especially objectionable where sheep are run, recovered much faster during the favorable 1938 season than other species, and now form a large portion of the forage cover in some parts of the district. Cheat or downy chess has invaded much of the range, lowering the carrying capacity.

The average carrying capacity, as shown by the Agricultural Adjustment Administration records, is 132 animal-months per section, which is equivalent to sixteen and one-half animal-units per section for an 8-month grazing period. ^{7/} This average is probably not representative of the entire district because the areas covered by the survey do not include any of the open and uncontrolled lands. Then, too, the Agricultural Adjustment Administration survey was not intended to be used as a basis for range management, but rather to determine the amount of the benefit payment for which the operator could apply as a result of compliance with regulations of the range program. An attempt was made, however, to secure the "potential carrying capacity" of the existing forage plants on each tract under "normal" growing conditions.

Personnel of the Land Use Adjustment Project estimate the average carrying capacity (from a range management standpoint) of all range land within the Buffalo Creek District to be about 11-1/2 animal-units per section for an 8-month grazing period. The entire acreage of the district, totaling 525,881 acres, or 821.7 sections, would thus have a carrying capacity of 9,450 animal-units for an 8-month season. Since perhaps 10 percent of the area may remain in farms or ranch headquarters, the carrying capacity may conservatively be estimated at 8,500 animal-units. While the estimate is much higher than the present stocking of the area, it is just about the actual number of stock in the area on January 1, 1935, estimated from census data by minor civil divisions. Assuming that about one-fourth of the carrying capacity is needed for pasturage for domestic and workstock, there would be available open range for approximately 6,400 animal-units of range livestock.

^{7/} An animal-unit is one mature cow or steer or equivalent. The general practice in this area is to consider 2 horses equal to 3 units, 5 sheep equal to 1 unit, and all cattle one year and over as averaging out at 1 unit per head. Calves are not counted, and are considered as averaging in with the yearlings, making the latter equal to 1 unit per head. An "animal month" of grazing capacity is 1 month of grazing for 1 animal-unit.

Size of Operating Livestock Units

During the 1938 grazing season there were 93 operators whose units were entirely within the dry-land part of the grazing district. The size of these units varied from less than a quarter section to 13,740 acres (about twenty-one and a half sections), with an average of 1,804 acres (2.8 sections). ^{8/} Over half of these units were less than the equivalent of 2 sections in size.

Of the 93 operators, 20 are full-owners, 48 are part-owners, and 25 are tenants. Part-owners have larger operating units on the average than either tenants or full-owners. Leasing plays a very important part in building up the size of livestock operating units, as shown by the fact that two-thirds of the land in the 93 operating units is leased land.

Degree of Formal Control Exercised over Grazing and Dry-Farming Lands

During the 1937 grazing season, resident operators owned approximately 14 percent of the dry-land area of the district and leased 25 percent; approximately 20 percent was under lease to the Buffalo Creek Grazing Association, and about 1 percent was leased to operators from outside the district proper. The remaining 40 percent of the area was not under any legal or formal control. Of the 210,640 acres not under formal control, about 52 percent was owned by nonresident individuals; 32 percent by corporations, and 16 percent by public agencies. There was, therefore, as may be seen, a great deal of variation among the different classes of ownership in the percentage of land not under formal control. Yellowstone County for example, with the bulk of its lands under lease to the Buffalo Creek Grazing Association, had all but 7 percent of its holdings under lease or sale contract, while the State, individuals (both resident and nonresident), and many of the corporate groups had less than half of their holdings under lease or sale contract.

These differences directly reflect the policies of land-owning agencies. The State of Montana, until the 1939 grazing law required grazing associations to lease all State lands within their boundaries, tended to demand rather high prices for its land and was thus unable to lease a good deal of it. The Northern Pacific Railroad (the largest real estate owner excepting only Yellowstone County), follows a policy of leasing its lands at \$25 a section. Any lands not leased at that figure are apparently considered not worth consideration. Other corporations, consisting chiefly of investment agencies, are temporary and for the most part unwilling owners, merely awaiting an opportunity to liquidate their holdings by sale. Many of the individual owners, like

^{8/} For purposes of this study, an operating unit was considered to be all lands, contiguous and noncontiguous, owned or leased by one operator. Lands considered as operator-owned include land held under contracts for sale and under deed to a member of the operator's family. The data on operating units were obtained from the farm and ranch schedules compiled by the Land Use Adjustment Project office, county assessor's ownership plat books, and sale and lease records of Yellowstone County, Northern Pacific Railroad, and the Federal land bank.

the corporations, acquired title by foreclosure of mortgages. Their chief desire is to liquidate what many as yet do not realize were very bad investments. Since current taxes generally exceed lease values, owners of the latter types of holding cannot see an advantage in leasing at a loss, and are awaiting opportunity to sell.

All lands are utilized, whether by a legal right or by a mere taking of possession. While the current trends of abandonment and migration continue, a certain amount of additional land will fall annually into the "uncontrolled" class and will temporarily be subjected to competitive use. However, the Federal program of land purchase and the county's vigorous policy of taking title to tax-reverted lands, which are then brought under lease to the association, may be expected gradually to reduce the uncontrolled area and bring about responsible and conservational land-use in the grazing district.

Relation Between Range and Farming Land

Since opportunities for winter feed production within the dry-land portion of the grazing district are very limited, the logical sources of supplemental winter feed lie in the irrigated land of the Huntley Reclamation Project across the Yellowstone River to the south of the grazing district, and in the irrigated area in the southwest corner of the district. The peculiar relation existing between the irrigated land and range land arises from the fact that one of the principal cash crops in both of these irrigated areas is sugar beets. Small grains and legumes, chiefly alfalfa, are necessary in crop rotations of sugar beets and, together with the beet tops and beet pulp, represent a considerable annual production of excellent livestock feed. These by-products of the beet grower are too bulky and cheap to be marketed, the only economical outlet being the feeding of livestock on the premises. When properly utilized, these so-called by-products become a major source of farm income. A further important benefit of the wintering of breeding stock or the fattening of lambs and steers for market on the premises accrues from the manure produced, which remains on the farm and represents an essential element in maintaining high beet yields. Range land fits into this arrangement by providing cheap feed for about 8 months of the year, thus relieving the farmer of irrigated land of the necessity of keeping too large a portion of his high-priced land in irrigated pasture. At the same time the range-livestock industry knows the security of a certain supply of winter forage. The proper relationship between the range land and irrigated land requires that the range produce the summer feed, and the irrigated land much of the winter feed. The dry-land rancher, who may or may not produce a little feed under dry-land cultural methods, must usually secure some winter feed from the irrigated areas. He may either sell feeder stock to the irrigated farmer each fall or have them fed out on a share basis. From the irrigated farmer's viewpoint, the range land represents a necessary complement to his own intensive operations on irrigated land. This relationship involves the use of livestock to

utilize his by-products, maintain soil fertility, and give him year-round profitable employment. In this relationship it is of little consequence whether he maintains a range herd, buys feeders, or feeds on shares, so long as the by-products of his farm are rendered marketable on the hoof and the fertility returned to the land.

POLICIES AFFECTING THE STABILITY OF LAND USE AND TENURE IN THE BUFFALO CREEK GRAZING DISTRICT

To understand the maladjustments in land use and tenure which have occurred, and to deal satisfactorily with those which still exist, it is essential to consider the policies which have brought them about. Not only have Federal land policies affected settlement, but a broad range of State and county policies in the fields of taxation, governmental organization and finance have had much to do with the direction of land use and possibilities of success. Similarly, the viewpoint and activities of credit agencies, both public and private, have been of signal importance in shaping the trends of land use and occupancy in this and similar areas. A brief appraisal of the effects of these various policies should prove helpful in devising means for improving land utilization in the future.

Early Land Policies of the Federal Government

The land policies of the Federal Government have been of major importance in shaping the development of the Great Plains area in which the Buffalo Creek grazing district lies. Its homesteading policies invited newcomers to undertake farming first on 160- and later (after 1909) on 320-acre tracts in an area that has proved to be almost wholly unsuited to farming. The lure of free land when foreign and domestic markets were favorable to agricultural expansion and when rainfall in the area was above normal led to the plowing up of large acreages. Homesteaders were required to put their land under the plow, whether or not it was suited for cultivation. Homesteads of 640 acres were authorized in 1916, with the provision that they be devoted solely to grazing and stockraising; relatively few entries were made in the Buffalo Creek district, however. Most of the land available for homesteading had already been taken up under the 160- and 320-acre homestead provisions, primarily the latter, and it is fairly evident that far more than 640 acres is needed for an economic stock-raising unit.

The homestead system and attendant land speculation during the expansion period gave rise to the present complicated pattern of land ownership in the district. As a consequence of farm failure, these factors have led to a high degree of absentee ownership and to the development of land in uneconomic units. The optimism that prevailed during the period of rapid settlement resulted in speculation that inflated the price of land far above its earning value, and this tendency was further intensified by the availability of easy credit. As it became evident during the early 1920's that the boom conditions prevailing in

this area from 1914 to 1918 were only temporary, large acreages of land passed into the hands of lending agencies and individuals through mortgage foreclosures, bankruptcies, or voluntary transfers to avoid forced liquidation, and into county ownership through tax forfeiture. The parceling out of land in 160- and 320-acre tracts and the subsequent changes in ownership have resulted in a large number of ownership tracts so small and scattered that it is exceedingly difficult for an operator to gain control over an efficiently organized stockraising unit.

Credit Policies

Early Private Credit

During the period of settlement and crop farming, credit agencies were apparently as optimistic regarding future development of farming in the area as were the farmers themselves. Farm implement companies probably made the bulk of their sales on credit, taking mortgages as security. Such mortgages undoubtedly accounted for many of the transfers prior to foreclosure. Bona fide credit agencies, including local banks, investment trusts, and insurance companies, loaned heavily on real estate and lost heavily along with the farmers when the boom collapsed.

Easy, liberal credit had much to do with shaping of land use history in the Buffalo Creek district, for once involved, many of the farmers had no choice other than to continue farming in the hope of paying out with crops.

Federal Land Bank Loans

The policies of the Federal land bank in the early days were not greatly different from those of other lending agencies. According to the data on mortgages in force and mortgages foreclosed discussed previously, it appears that prior to 1921 the Federal land bank on the average made even higher loans per acre than private interests were willing to make. The average amount of mortgage debt represented by mortgages to private interests during the years 1917-20 was \$4.57 per acre, while for the Federal land bank the average amount was \$6.87. Beginning in 1921 the Federal land bank apparently became more conservative in lending in this area. It took only 18 mortgages in this area between 1921 and 1925, and none after 1925. Available data do not indicate how many of the land bank loans were for refinancing purposes. Up to July 1, 1936, only one Land Bank Commissioner loan had been made in this area, and this was for only \$1.56 per acre, probably somewhat less than the land was actually worth.

Feed and Seed Loans

Feed and seed loan programs in the past have had a marked effect on land use in the Buffalo Creek area by enabling many operators, who otherwise would have been forced out, to remain in the area. Of the 173 operators in the dry-land area since 1932, 46 have had one or more loans during the years 1931 to 1937.^{9/} It is significant that fewer than

^{9/} Data on seed and feed loans were obtained from the Farm Credit Administration.

20 percent of these loans have been repaid; in fact, almost half of these operators have paid nothing on their loans, and only 10 of them have repaid as much as 50 percent. Ten borrowers have left the area since receiving their loans; there is little prospect that these loans ever will be repaid.

Many local people have come to consider seed loans as merely another form of Federal relief, something that does not necessarily have to be paid back. The more recent policy of the Farm Credit Administration of refusing to make seed loans in areas plainly not suited for crop production, such as the dry-land part of the Buffalo Creek grazing district, appears to be entirely justifiable and probably will do much to lift the seed loan program out of its former relief status and place it on a more business-like basis. If continued over a period of years, it should exert a strong influence toward encouraging desirable adjustments in land use.

State and Local Tax Policies

Taxes and Assessment

The period of farm settlement in the Buffalo Creek grazing district was characterized by a highly optimistic view of land values, which came to be reflected in correspondingly high assessments. The organization of government, such as school districts, was based upon the same optimism toward land values and farm success. In 1924, after the bulk of early abandonment had occurred, assessed values in the area still averaged \$5,600 a section, while annual real estate taxes averaged about \$65. Unfortunately, the collapse of farming and the break in land values have not been accompanied by equal or immediate reductions in assessments or taxes. Two factors have contributed to this inflexibility: (1) the pattern of population remained sufficiently scattered throughout the area, in spite of wholesale abandonment of farms, to require about the same level of expenditures for schools, roads, and other costly public services; (2) debts contracted for building purposes by the county and the several school districts during the boom period had to be paid after the decline.

As a consequence, while the county early recognized the necessity for reduction of assessments, and made repeated reductions between 1924 and 1937, the earlier reductions in assessment tended to be offset by increases in the millage rates, particularly for school district purposes.

In 1937, the board of county commissioners caused all land in the dry-land part of the Buffalo Creek district to be reclassified as "grazing land", ^{10/} and the assessor reduced the values of grazing land to a maximum of \$2.00 per acre plus improvement values. In 1937 and 1938 the average assessed value for the area was about \$1,460 per section, or 25 percent

^{10/} Prior to this about one-third of the taxable acreage had been classified as "non-irrigated tillable" and the balance as "grazing".

of the 1929 average. The 1937 taxes varied from \$18 to \$36 per section (depending upon the assessed valuation of improvements and variations in school district levies), with an average of \$25.40. Reductions in millage levies in 1938 resulted in a decrease of taxes per section to an average of \$23.08 (which was only 84 percent of the 1929 average), the range being from \$16.34 to \$26.42. This reclassification was more than a tax reduction scheme. It was an acknowledgment on the part of the county officials that they no longer considered this area as having any great farming possibilities. The natural complement of this change in tax policy was the policy favoring retraction of road, school, and relief expenditures as far as possible so that public expenditures in the area could be reduced in accordance with the reduction in taxes.

To the casual observer, taxes in the Buffalo Creek district may seem low, and compared with taxes in surrounding counties they are low. However, the average taxes per section for the area as a whole are actually higher than the average lease value of the land. Studies of the Montana Experiment Station indicate that a fair lease rate for grazing land under current ranch prices for beef cattle 11/ is 23-1/2 cents per animal-month of grazing capacity, or about \$21.62 per section, assuming an 8-months' grazing period and a carrying capacity of 11.5 head per section (the average carrying capacity for the Buffalo Creek district). These studies further indicate that taxes should not absorb more than one-third of leasing returns. 12/ Thus, an average tax higher than \$7.20 per section under price and carrying capacity conditions prevailing in the Buffalo Creek district during 1937 could be considered excessive. With restoration of the range and increased carrying capacity, together with recovery of farm prices, lease values over a long period might conceivably increase sufficiently to warrant real estate taxes as high as 2 cents an acre, or \$12.80 a section. In spite of the enormous tax reductions in the Buffalo Creek district since 1929, taxes appear to be three times as high as the present productivity of the land justifies, and twice as high as would be warranted by the most favorable conditions of carrying capacity and farm prices which are likely to occur in the future.

Policies Relative to Tax-Reverted Land

The traditional objective of laws dealing with tax delinquency is to provide a procedure for passing tax-reverted lands back into taxable ownership as rapidly as possible. Legislative and administrative policies have been motivated by two more or less conflicting points of view—the desire of tax officials to achieve maximum collections, and the desire to soften the rigor of penalties for delinquency attributable to economic depression and the financial misfortunes of taxpayers.

11/ Saunderson, M. H., and Bolster, H. G., "Lease Values of Montana Range Land", table V, p. 7. Mimeo. Cir., Mont. Agr. Coll.; and Slagsvold, P. L., "An Analysis of Montana Farm Prices", table 16, p. 20, Mont. Exp. Sta. Bul. No. 345, August 1937.

12/ Saunderson, M. H., "A Method of the Valuation of Livestock Ranch Properties and Grazing Lands". Mont. Exp. Sta. Mimeo. Cir. No. 6, March 1938.

The high rate of tax delinquency which has occurred in the Buffalo Creek grazing district, particularly since 1927, has prevailed generally throughout similar areas of the State. As a consequence, tax legislation during the past decade has tended to weaken the tax collection procedure by relaxing the penalties of nonpayment. In 1933, the legislature extended the redemption period for tax certificates from 3 years to 4 years and in certain cases to 5 years. Emergency legislation passed in 1933, 1934, and 1935 provided for payment of delinquent taxes on a contract basis, the installment payments to be made semiannually over a period not exceeding 10 years. Laws passed in 1933, 1935, and 1937 provided that property could be redeemed, as far as tax certificates held by the county were concerned, by payment of the amount of the original tax without additional payment of penalties and interest. Under these laws counties were prohibited from assigning certificates and were expressly or implicitly prohibited from taking tax deeds during the tax moratoria periods so established.

For the most part, these concessions to taxpayers were ineffectual in protecting homeowners. Nonresident and corporate owners benefited more by them than did residents. In many instances this emergency legislation has tended to delay desirable adjustments, not only because it gave rise to many perplexing problems for the various taxing units, but also because it diverted attention from the fundamental problem and causes of delinquency, namely the excessive cost of local government in relation to the productivity of the taxable resources, and the extreme uncertainty of both private and public income from land use involving high risks.

The basic law of Montana requires the county commissioners to offer tax-deed lands for sale at public auction within 6 months after taking tax deed. The boards appraise the various tracts and the appraised value is the minimum sale price that can be accepted at the auction. Tracts not sold at the auction may be reappraised and reoffered at auction, or they may be sold at private sale for not less than 90 percent of the appraised value. ^{13/} Until quite recently the policy of the Board of County Commissioners of Yellowstone County, in accordance with the policy established by the Legislative Assembly, was to attempt to get the tax-reverted lands back on the tax roll, and hence appraisals were usually quite low. However, in spite of these low appraisals, very little of the county's land has been sold. The failure of the county to sell any significant portion of its land has forced a recognition of the fact that the county is already in the real estate business and will have to continue therein for many years.

The realization that much of the tax-reverted land should remain in public ownership in the future, for several years at least, has led the county commissioners to adopt the policy of taking tax deed just as rapidly as tax certificates become subject to deed and the various tax

^{13/} Section 2208.1, 1935 Revised Codes of Montana, as amended by Chapter 193, 1939 Session Laws.

moratoria permit. The county is leasing land within the grazing district to the association, not only to secure some income from the land in lieu of taxes, but also to conserve and build up the forage resources which controlled use makes possible. This course is now possible under legislation recently enacted providing for the leasing of county lands. 14/

Changes in School Organization and School Population

Considerable reorganization of the school system in the Buffalo Creek grazing district has been effected as a result of the migration of farm families from the dry-land area during the abandonment periods previously discussed. Seven school districts have been abandoned and attached to adjoining districts and one other will probably be subject to abandonment in the near future. In 1938 there were only 4 districts lying entirely within the grazing area, only 2 of which operated schools, the others sending their children to schools in other districts. Three districts lying partly within the grazing area operated schools in the more thickly settled territory outside of the grazing area. During the past 20 years a total of 31 rural schools has been closed in the grazing area, many of which have been in disuse and disrepair for so long that they are probably no longer usable (table 8 and fig. 5).

The fact that the few families remaining in the area are widely scattered, together with the rough topography of the country and the scarcity of roads, complicates the problem of any further reorganization of the school system to effect savings in local governmental costs. The land acquisition program of the Federal Government (to be discussed later) will reduce the number of isolated families. However, there remain scattered throughout the area families with children of pre-school age whose place of residence will not be affected by this program, which indicates that the future school population may be even more dispersed than at present (fig. 5). This would indicate the need for some program of relocation, on the part of the county, State, or Federal Government, to encourage and assist these isolated families in reestablishing themselves in or adjacent to the irrigated areas where settlement is more concentrated.

Recent State Measures for Land-Use Adjustment

Change in State Policy

For a number of years the Montana Legislature has been aware of the State's responsibility in conserving natural resources and encouraging adjustments in land use. A law passed in 1933 provided for the organization of county land advisory boards to cooperate with the boards of county commissioners in administering county-owned lands and to aid in setting up grazing districts. Although little use of the law has been made, it is significant in that it contains a definite expression

14/ Chapter 193, 1939 Session Laws. See also footnote 13.

Table 8.--Number of Schools, Taxable Valuation, and Tax Levies of School Districts
in the Buffalo Creek Grazing District, 1938 ^{1/}

School district number	Schools operated		Number of		1938 millage levies	
	In	Outside of	closed	Taxable	General fund	Bond interest and sinking fund
	Number	Number	Number	Dollars	Mills	Mills
9	1	-	10	105,640	12	5.8 ^{2/}
10	-	3	9	163,173	10	-
15	-	1	1	511,464	10	5.4
16	-	-	2	29,361	-	-
49	-	-	5	50,392	3	-
52	-	1	2	71,609	10	-
53	1	-	2	20,958	12	2.0

^{1/} Compiled from records on file in the office of the County Superintendent of Schools for Yellowstone County, Montana.

^{2/} Bond interest and sinking fund levy applies to a taxable valuation of \$34,171.

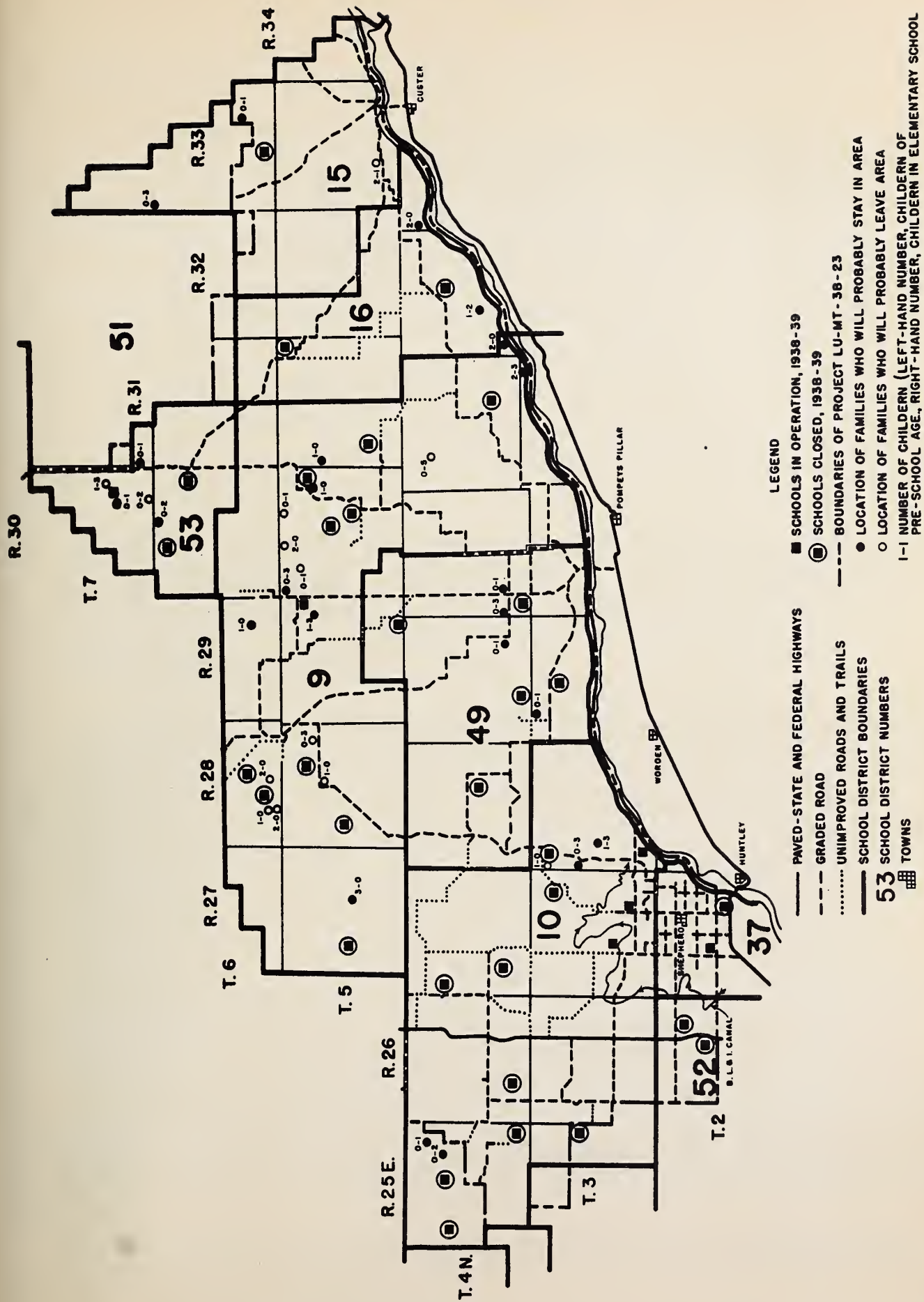


Figure 5. - Location of public facilities and children of school and pre-school age in the Buffalo Creek Grazing District, school year 1938-39.

of the policy of the Legislature, to wit:

"It is hereby declared to be the policy of the State of Montana: To promote the conservation of the natural resources of the State; to provide for the conservation, protection and development of forage plants and for the beneficial utilization thereof for grazing by livestock under such regulations as may be considered necessary; to put into crop production only such lands as are properly fitted therefor; to encourage the conservation of water for livestock and irrigation; to place the farming and livestock industries upon a permanent and solid foundation, to extend preference in sales and leases of lands to resident farmers, stockmen and taxpayers; to gradually restore to private ownership the immense areas of lands, which have passed into county ownership because of tax delinquencies." 15/

After such a sweeping declaration of policy it may seem odd that with the exception of grazing district legislation, the lengthy debates in the legislature regarding conservation and land use produced but few workable measures until the 1939 legislative session.

Cooperative Grazing District Laws

The grazing district law, first enacted in 1933, 16/ authorizes the incorporation of nonprofit grazing district associations and provides machinery and rules for cooperative leasing or ownership, and the management and apportionment of grazing rights in a grazing area. The associations are empowered to plan their fencing and water development, to determine the carrying capacity of their range and the length of their grazing season, and to issue grazing permits to members. A 1935 amendment to this law 17/ corrected some of the important weaknesses of the original act by setting up a State grazing commission to act as the administrative authority over the grazing districts. Many uncertainties remained in the law, however, and in 1939 it was extensively revised. 18/ The powers of the grazing commission (renamed the "Montana Grass Conservation Commission") and of the associations were somewhat clarified and strengthened. One of the more important provisions of the new law forbids the grazing of livestock within a grazing district without the consent of the district, unless such stock is prevented from grazing upon any land except that actually owned or leased by the owner of the livestock. The association is thus given a degree of control over lands that have been abandoned by their owners.

15/ Section 5, Chapter 67, 1933 Session Laws (Section 4573.5, 1935 Revised Codes of Montana).

16/ Chapter 66, 1933 Session Laws.

17/ Chapter 194, 1935 Session Laws.

18/ Chapter 208, 1939 Session Laws.

Numerous cooperative grazing associations have been operating under these laws for several years (fig. 1). Their experience to date indicates that the cooperative management of grazing lands, by some form of group action, holds promise of effecting major adjustments in the agriculture of the Great Plains area.

Soil Conservation Districts Law

In 1937 the Legislative Assembly enacted a soil conservation districts law authorizing the organization of soil conservation districts to deal with the problem of erosion. The law was so inadequate, however, that no districts were organized under it, and in 1939 it was repealed when a more complete statute was enacted. The 1939 act is similar to that enacted in 36 other States, and provides for the organization of soil conservation districts as governmental subdivisions of the State, with power to assist farmers and graziers in carrying on erosion-control operations and to enact into law land-use regulations needed for erosion control. Two of the districts' powers are particularly appropriate in areas where grazing predominates, such as the Buffalo Creek grazing district. They are the power to lease grazing lands and to control their use in order to conserve their resources, and the power to adopt a land-use regulation, having the force and effect of law, to prohibit overgrazing. Although no soil conservation district has yet attempted to utilize these powers to meet its range problems, it seems probable that they can be invoked to stabilize the livestock operations of individuals under a preference-permit system similar to that of grazing associations, and substantially to accomplish many of the other objectives of grazing associations, particularly the cooperative management of grazing lands.

ORGANIZATION AND OPERATION OF THE BUFFALO CREEK COOPERATIVE GRAZING ASSOCIATION

The precarious position in which operators in the Buffalo Creek area found themselves in the early 1930's, as a result of a long period of instability in land use and ownership, has been indicated in a preceding section of this bulletin. Large areas of "open" lands, largely abandoned homesteads under no definite system of tenure, were being still further depleted, and provided grounds for numerous conflicts between operators. Operators were leasing land in small units on a short-term basis under competitive conditions that helped deplete rather than improve range resources. Competition between stockmen had reached a point where individual operators had no assurance from year to year that they would be able to obtain the summer pasture upon which their livestock operations depended. Under such conditions there was little or no incentive to improve the range, to reserve pastures for drought emergencies, or to develop permanent sources of water supply.

The stockmen were in urgent need of some means of acquiring control of the area of summer range land upon which their ranches and farms depend. This need aroused the interest of the remaining stockmen in the area and resulted in the formation of a cooperative grazing association, under the State enabling legislation, for the cooperative leasing of range lands and the restriction of the number of livestock to the actual carrying capacity of such lands. 19/

Organization of the Buffalo Creek Cooperative Grazing Association

The Buffalo Creek Cooperative Grazing Association, as at present constituted, resulted from a merging of two associations. The original Buffalo Creek Grazing Association was organized in October 1934, and its district covered the eastern two-thirds of the present district. The Shepherd Association, covering the western third of the present district, was organized in April 1935. The associations collected membership fees (\$5.00) at the time of organization, but they did not enter into lease agreements with landowners nor issue grazing permits to members during the first grazing season (1935). The first year of their existence was devoted primarily to organizational and planning work. A tremendous amount of effort was necessary at this stage to work out the many details involved in leasing range land and distributing grazing preferences to members. This undertaking represented a new departure in range livestock operations in the area, and much educational work was necessary to acquaint operators with its purposes and procedures. Although no leases were acquired by the association during the first season, a large number of landowners was approached in connection with planning for operations during the 1936 grazing season.

Livestock operators in the two contiguous grazing districts had numerous similar and overlapping interests. It was only natural that they should merge, as they did in February 1936, retaining the name of the Buffalo Creek Cooperative Grazing Association.

Membership History of the Association

The period just preceding and just following the reorganization of the Buffalo Creek Cooperative Grazing Association in 1936 was one in which conditions extremely unfavorable for crop and livestock production prevailed. The severe droughts and grasshopper infestations in 1934 and 1936, following a succession of unfavorable years, resulted in crop failures and grass depletion so severe as to necessitate immediate disposal of a large portion of the livestock in the district. It has been pointed out, in a preceding section, that the general instability of land use and tenure in the district has resulted in large-scale abandonment of land in the area, particularly by wheat farmers. During such a

19/ For a general discussion of the nature, purposes, and organization procedure of cooperative grazing associations in Montana see, "Grazing Districts: Their Nature and Possibilities in Range Land Utilization". Mont. Ext. Serv. Bul. No. 127 (Revised), 1934, and "Grazing Districts in Montana: Their Purpose and Organization Procedure". Mont. Exp. Sta. Bul. No. 326, 1936.

period of transition it was to be expected that membership in the newly-organized grazing association would not be stable.

There were 122 members in the Buffalo Creek Cooperative Association in 1936. Only 84 of these used range controlled by the association and paid grazing fees to it. Eleven members paid nonuse fees for the 1936 grazing season, and the remaining 38 were classed as "honorary" members. ^{20/} For the 1937 season there were 111 members in the association, 83 of whom paid grazing fees, 5 paid nonuse fees, and 28 were classed as honorary members. In 1938 the honorary classification was dropped and there was a reduction in membership to 63, only 41 of whom paid grazing fees, the others paying nonuse fees.

The 84 members who used range controlled by the association in 1936 obtained grazing permits for 3,650 animal-units. Since many members did not turn over to the association control of land that they already held under private lease arrangements, grazing permits were largely confined to lands leased by the association itself. Members owned additional livestock which they grazed on land under private lease and some nonmembers also grazed stock in the district. It is estimated, on the basis of census data by minor civil divisions, that there were 8,700 animal-units, exclusive of milch cows and heifers, in the district on January 1, 1935. Horses accounted for 2,200 animal-units; cattle, 4,700; and sheep, 1,800. There are no indications that livestock numbers in the district changed significantly between 1935 and 1936; however, practically all forage in the district was destroyed by grasshoppers and severe drought in 1936, and it was necessary for operators to make drastic reductions in livestock numbers. Grazing permits were issued to members for less than 700 animal-units in 1937, but in 1938 the number increased to 1,000 and, in addition, permits were issued for approximately 200 animal-units owned by nonmembers. In 1939 a total of 1,595 animal-units were grazed under permits.

Leasing Experience of the Association

Landowners Contacted

Since the range land in the district was fairly heavily stocked at the time of organization in 1936, the first major problem confronting the association was that of obtaining control of sufficient range to provide grazing for the livestock of its members. As previously indicated, the ownership pattern of the Buffalo Creek district is composed of a myriad of small tracts, a high percentage of which are in absentee ownership. This diversity of ownership indicates the magnitude of the task which the association faced when it attempted to contact the owner of every parcel of grazing land in the district, other than owner-operators, for the purpose of extending offers to lease such lands. Aside

^{20/} Some operators who were understocked at the time and did not need to obtain grazing permits from the association, but who expected to be able to use more range in the future, paid membership fees and were classed as honorary members.

from governmental agencies, 478 owners, corporate and individual, resided in 26 States (including Montana owners not on the land), Canada, and Mexico.

Letters were addressed to each owner stating that the Buffalo Creek Cooperative Association would like to lease his lands, but not naming a price. Of the 521 lease inquiries sent out, 41 were never delivered because of failure to locate the owner. Apparently 308 owners, or 64 percent were not sufficiently interested in the possibility of leasing their lands to the association even to request an offer, and only 172 of the 480 landowners receiving the lease inquiries sent any reply. Fifty-two of the 172 who replied reported that their lands were already leased to individual operators, and 4 others reported that they were not interested in leasing their lands to the association. An offer to lease for \$15 per section was made to each of the remaining 116 landowners. Sixty-seven of these made no reply to the lease offer, 16 mailed refusals, and 33 leased their lands to the association. In addition to the 33 leases obtained through correspondence, the association acquired leases from 18 other private owners, largely through personal contact. Leases were also obtained from the Federal Land Bank of Spokane, the State of Montana, and Yellowstone County.

Most of the landowners who refused to lease their lands to the association and many of those who finally signed leases complained that the lease offer was too low. They called attention to the high prices they paid for the land, and to the fact that taxes annually amounted to more than the lease offer. Complaints about high taxes in relation to the grazing value of the land, as determined by the association, were most numerous. Many owners were unwilling to lease their lands for less than taxes even though there appeared to be no alternative source of return from them.

Offers to sell land to the association were even more numerous than complaints about low lease offers. Many owners who were unwilling to lease to the association at the proffered rate, as well as some who signed leases, expressed a desire to sell their holdings.

Leases Obtained

The Buffalo Creek Cooperative Grazing Association was able to obtain only 48 leases, totaling 17,700 acres, from private owners. Practically all of these leases were acquired in 1936 and the association has not actively sought leases since that time because of the small number of livestock in the district. Forty-five of the leases run for 5 years and the others run for 3 years. Most of the leases give the association the option of extending them for a period of the same duration as the original lease.

The association has acquired most of its grazing land from Yellowstone County. In 1936, approximately 50,000 acres of land were leased from the county and in 1938 an additional 33,000 acres were leased, making a total of 83,000 acres. The county leases run for 5 years and provide that any additional lands lying within or adjacent to the boundaries of the grazing district which may become the property of Yellowstone County before expiration of the leases shall be added to the leases.

In 1938 the Federal Land Bank of Spokane leased 8,300 acres of land to the association, and the State of Montana leased one section of 640 acres, both agencies giving leases for one-year periods only. All land under lease to the Buffalo Creek Cooperative Grazing Association is classified by ownership in table 9, which also shows the amount of this land lying within and outside of the grazing district boundaries.

Table 9.—Classification of the Ownership of Land Under Lease to the Buffalo Creek Cooperative Grazing Association, 1938 1/

Class of ownership	:Acreage within:Acreage out-:		
	: boundaries	: side	: Total
	: of the	: district	: acreage
	: district	: boundaries	:
	: <u>Acres</u>	: <u>Acres</u>	: <u>Acres</u>
State of Montana	: 640	: -	: 640
Yellowstone County	: 79,965	: 3,985	: 83,950
Commercial banks	: 937	: -	: 937
Investment and mortgage companies	: 320	: 144	: 464
Federal land bank	: 8,015	: 320	: 8,335
Residents of Montana	: 2,631	: -	: 2,631
Nonresidents of Montana	: 13,323	: 320	: 13,643
Total	: 105,851	: 4,769	: 110,620

1/ Records of the Buffalo Creek Cooperative Grazing Association.

The 110,620 acres of land leased by the grazing association should carry about 2,000 animal-units for 8 months of summer grazing, and the land controlled by association members (allowing for the acreage to be used for crops, winter range and pasturage for domestic and workstock) has an estimated summer carrying capacity of 800 to 900 animal-units. Assuming no use of the open and uncontrolled land, the members of the association could safely stock up to a total of 2,800 or 2,900 animal-units, which is two and one-half times their present stocking. Although these estimates are purposely conservative, they indicate a carrying capacity far in excess of the present stocking of the district by both members and nonmembers. If range conditions continue to improve during the next few years as a result of understocking, the range controls being established, and more favorable weather conditions, there will be a still greater carrying capacity available. The development operations of the Federal land-use adjustment project, to be discussed later, will make even further increases in carrying capacity available to association members.

Degree of Range Control Obtained by the Association

In 1936, members of the Buffalo Creek Grazing Association owned 61,000 acres and leased 99,000 acres of land within or adjacent to the grazing district. These acreages, together with lands under lease to

the association, gave the association formal control of 42 percent of the area within the boundaries of the district. The total acreage under control of members dropped to 132,000 acres in 1937 and to 85,000 acres in 1938 because of withdrawals from membership and some relinquishment of leases by the remaining members. Thus, in spite of the increased acreage under lease from Yellowstone County in 1938, formal control by the association dropped to less than 35 percent of the area (table 10). The pattern of land management and control in the Buffalo Creek grazing district in 1938 is shown in Figs. 6 and 7.

It is generally believed that a higher degree of control than that held by the Buffalo Creek grazing association is necessary for successful grazing district operation. As a prerequisite to approval for organizing a cooperative grazing association, the Montana Grazing Commission requires that the organizers of the proposed association must show ability to develop majority control of land in the district within a short time. The drastic reduction in livestock numbers immediately following organization of the association reduced the incentive for the association to proceed with its leasing efforts. These efforts, no doubt, will be resumed when livestock numbers have been replenished to a point where additional range can be utilized.

Financial History of the Association's Operations

The financial considerations involved in the operation of the Buffalo Creek grazing association are highly important, since, over a period of time, they determine whether or not it can afford to operate. The association must keep leasing charges and overhead costs within limits which can be met by a grazing charge operators can afford to pay. Conversely, it must maintain a membership body and grazing fees adequate to meet necessary expenditures with a margin of reserve for emergencies.

During the first year of operation, membership fees were a significant item in the association's income. Then, too, members were fairly heavily stocked at the beginning of the year and found it desirable to acquire grazing permits from the association to provide range for a substantial portion of their stock. As a result of these two factors, the association was able to accumulate a surplus of about \$2,000 during its first year of operation.

In 1937 the income of the association from grazing permits was drastically reduced because of the liquidation of livestock holdings following the drought and grasshopper infestation during the previous summer. The association did not relinquish any of its 5-year leases which had been acquired to provide for the needs of its members at the beginning of the previous season, because this would have meant forfeiting control of land essential to its future operations. Since there was no reduction in leasing and overhead costs corresponding to the decreases in grazing permits, the association operated at a loss in 1937, which wiped out the 1936 operating profit.

Table 10.--Control of Land in the Buffalo Creek Grazing District by the Cooperative Association, Members, and Nonmember Operators, 1936-38 1/

Type of control	1936	1937	1938
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
Owned and leased by members	160,534	132,025	85,679
Leased by the association	67,689	67,689	105,851
Total control by the association and members	228,223	199,714	191,530
Control by nonmember operators	<u>2/</u>	141,001	96,131
Not under control (grazing area only)	<u>2/</u>	210,635	263,689
Total area of Buffalo Creek Grazing District (including irrigated area)	542,390	551,350	551,350
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
Control--percentage of total area			
By members and association	42.1	36.2	34.7
By other operators	<u>2/</u>	25.6	17.4
Not under control	<u>2/</u>	38.2	47.9

1/ Compiled from records of the Buffalo Creek Cooperative Grazing Association, ownership plat books of the Yellowstone County Assessor, farm and ranch schedules, and other data compiled by personnel of Soil Conservation Service Project LU-MT-38-23.

2/ Data not available.

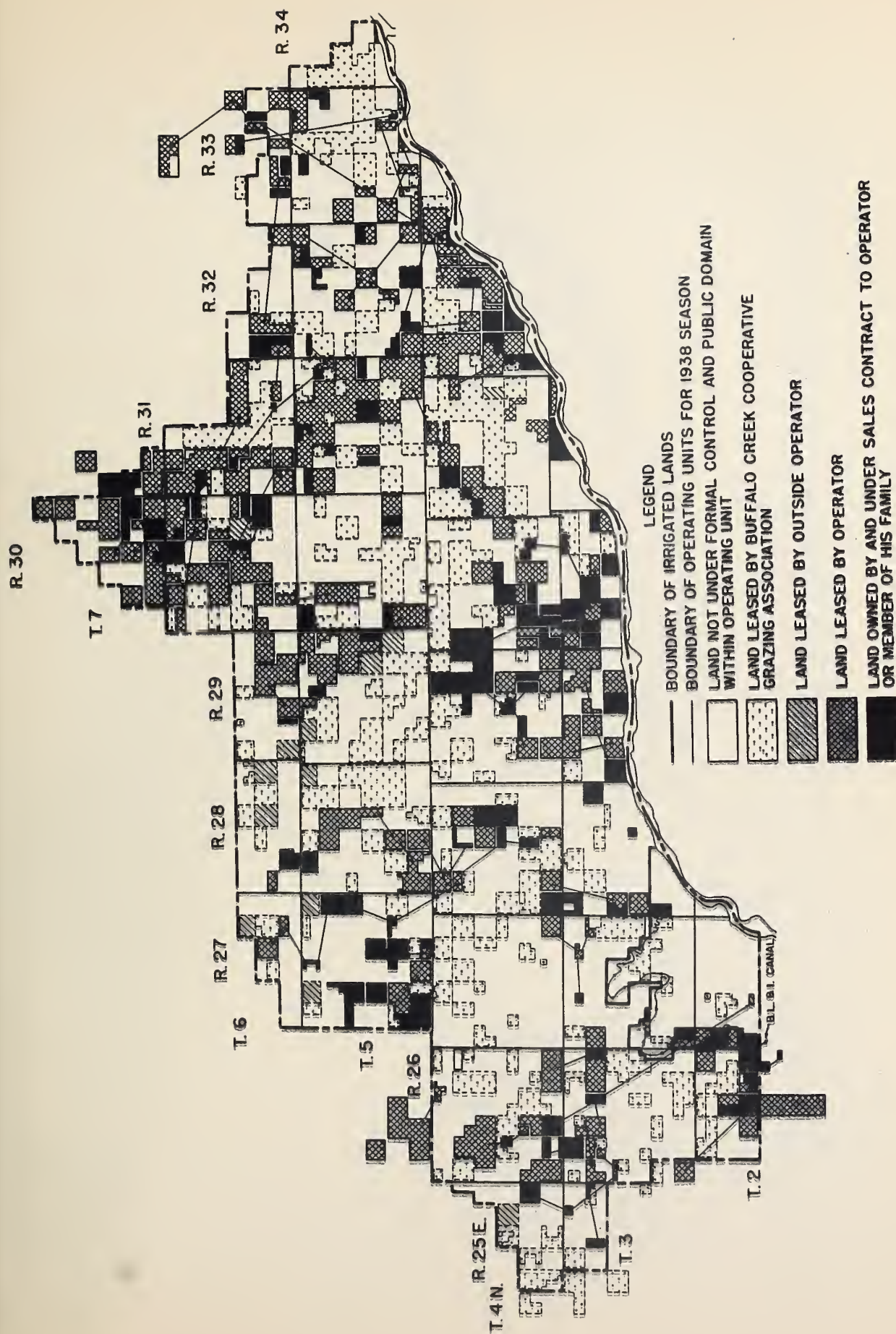


Figure 6. - Land control in the Buffalo Creek Grazing District, 1938 grazing season.

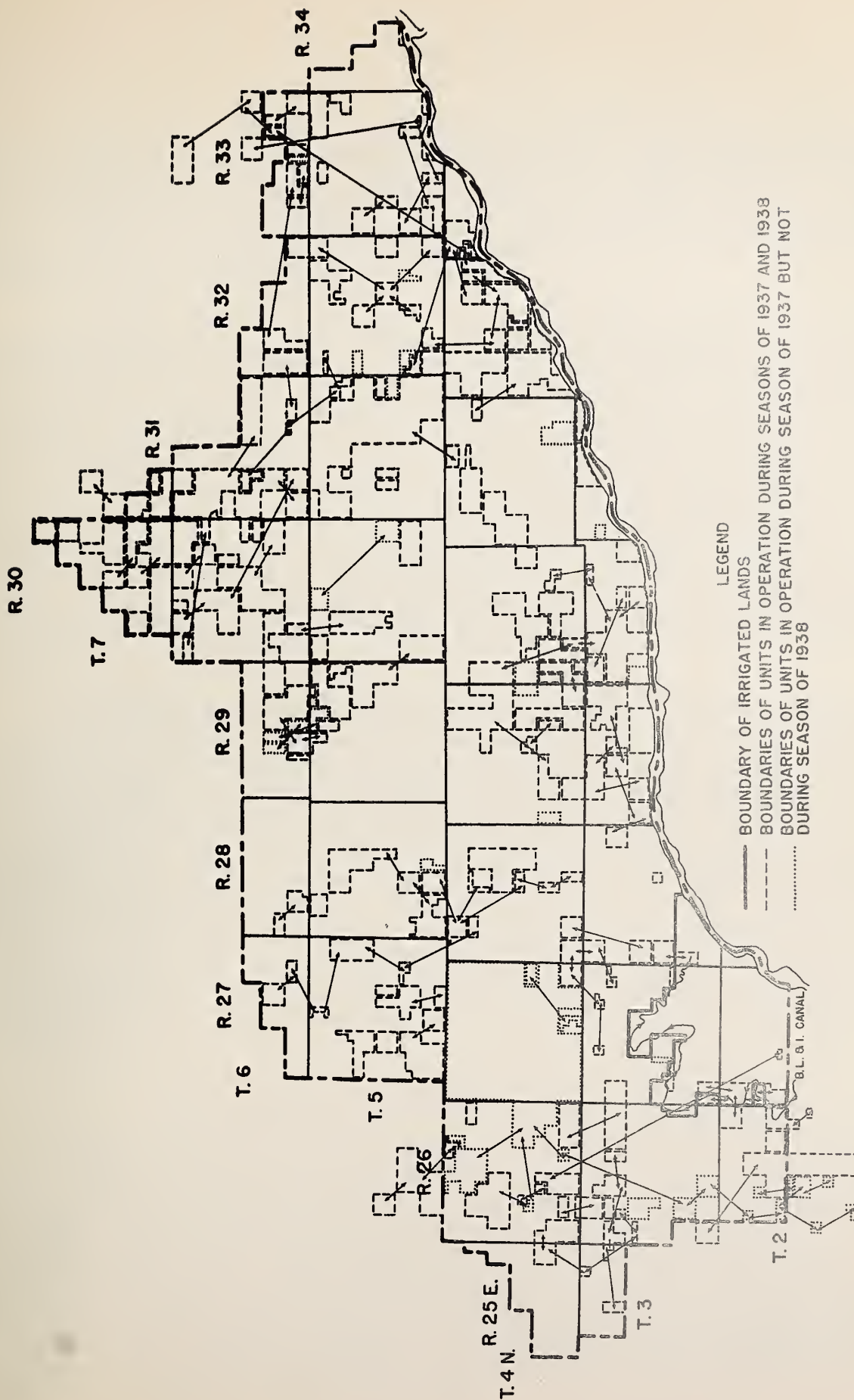


Figure 7. - Location of operating units in the Buffalo Creek Grazing District, grazing seasons of 1937 and 1938.

Income from grazing permits for the 1938 season was approximately \$1,700, and it is estimated that expenses were higher than in 1937, since an additional 30,000 acres of land were leased from the county, and a range rider was employed for a longer period during the grazing season. The operating deficit for the 1938 season was approximately \$2,000, or about the same as in 1937.

In 1939 the income of the association from grazing fees and new memberships was \$2,869, but its comparable operating expenses were \$3,741. The deficit of \$872 was more than made up, however, by a net income of \$1,120 obtained from participation in the Agricultural Adjustment Administration range program, so that the association actually had a net profit of \$248 on the year's operations. Unless it is assumed that the Agricultural Adjustment Administration program will continue to meet the deficits incurred by the land-management activities of the association, it is evident that steps must be taken to obtain an increased income or to decrease expenses, if possible. Neither will be easy, and it may be necessary to increase grazing fees above \$1.50 per animal-unit for an 8-month grazing season, which is the amount now charged.

It should not be assumed that all, or even the majority of grazing associations in Montana have experienced as serious financial problems as has the Buffalo Creek association. Most of the others are situated within the Federal grazing districts established by the Division of Grazing, Department of Interior, under the Taylor Grazing Act and have thus been able to secure the use of Federal range lands at a comparatively low cost, proportional to the number of livestock actually grazed on the Federal lands. The land charges of these associations were thus diminished in varying degrees when livestock numbers were reduced by the 1936 drought, while the land charges of the Buffalo Creek association remained fixed. The Badlands Grazing Association, in Valley County, is an example of a financially sound grazing association.

Other Problems Encountered by the Association

The chief problems thus far encountered by the association have been: (1) securing of membership and issuance of grazing allotments to provide adequate income to meet basic financial needs; (2) securing of legal control through long-term leases of sufficient land to assure control of the area. These problems have been discussed above. If financial problems can be handled during the next few critical years, the assured and improved range of the association, as well as restocking and revived income prospects of ranchers, should encourage additional stockmen to join the association and undertake the financial obligation of paying a reasonable fee for grass.

As membership and grazing-fee revenues increase, the association will undoubtedly renew efforts to lease nonresident-owned lands. It is

difficult to see how owners can very long continue to hold such lands without income. The Federal program of land purchase, and the county's vigorous policy of acquiring tax-delinquent lands, are both actively bringing hitherto uncontrolled lands under the management of the association. Through these several joint activities, the association may be expected to control the major portion of the area within a few years.

Trespass Problem

The primary motivating factors leading to the organization of the Buffalo Creek Cooperative Grazing Association was a desire on the part of the prospective members to substitute cooperation for competition among resident stockmen, and to curb indiscriminate grazing operations of outside stockmen who exercised little regard for conservation of the grass or established range rights. Operators within the district feel that the association, through employment of a range rider, has been fairly successful in regulating the extent of grazing, and in safeguarding the range of the association and its members against trespass. It is possible, however, that this relief may be temporary, due primarily to the understocked condition of the range, not only in the Buffalo Creek district but in the balance of eastern Montana, in which case trespass problems may be expected as the range becomes restocked.

The presence of a considerable number of nonmember operators within the district has been the cause of some friction. Since neither the lands of nonmember operators nor those of the association and its members are completely fenced, there have been some misunderstandings regarding the drifting of nonmember-owned livestock onto range controlled by the association and its members, and vice versa. The problem is further complicated by the extensive area which is under no formal control. Its utilization by either the association or by nonmember operators may necessitate crossing tracts controlled by the other, thereby leading to further disputes. The 1939 amendment to the grazing association laws has attempted to solve the problem by requiring everyone grazing livestock within a grazing district to obtain a permit from the association or restrain their stock upon lands owned or controlled by them. Its effect remains to be seen.

To the extent that continued adjustments within the district lead to greater stability in ranching operations and increased attractiveness of membership in the grazing association, the proportion of nonmembers in the district may decrease to a point where their friction with the association and its members is of little significance. If restocking by members and corresponding payment of fees progresses to a point where the association can afford to acquire leases on a considerably larger acreage than it now controls, disputes over utilization of open lands and trespass difficulties arising from utilization of such lands will be diminished.

Continued and Threatened Speculative Crop Farming

There is a general fear on the part of many operators who are working toward rehabilitation of the Buffalo Creek district as a grazing area that their efforts may at some future date be nullified by speculative farming interests stimulated by a few years of high rainfall or high wheat prices, or both. Most of the operators remaining in the district are convinced that crop farming cannot succeed there over any considerable period of time. Although the total acreage devoted to crops constitutes less than 5 percent of the area of the district, it is felt that the continuation of this enterprise is postponing a readjustment that must inevitably be made by a number of operators. Also, it is feared that this remaining crop acreage might form the nucleus for extensive undesirable expansion of cropping during a particularly favorable series of years. A continued recurrence of cropping ventures especially if accompanied by resettlement, would prove a serious hazard to development of a stable livestock industry in the district; since it would affect the amount and quality of range land available, the price paid for its use, the provision of public services within the area, and the tax levies necessary to support such services.

Many residents within or near the district regard the resumption of cropping as a likely accompaniment of temporarily favorable conditions. According to them there are still many persons in nearby communities who would welcome an opportunity to try for a "bumper" wheat crop in the district if conditions appeared particularly favorable in any given year. The discouragement or prevention of such ventures is essential for promoting the development of a stable livestock industry in the district.

Lack of Satisfactory Basis for Preference Distribution

The problem of determining the preference rating of members is particularly difficult in the Buffalo Creek district. Other grazing districts have used priority and commensurability as bases, but neither of these, considered separately, appears to fit satisfactorily the situation in this particular area. Commensurability alone would give the farmers in the irrigated portion of the district excessive allocations, while members in the dry-land area would be drastically curtailed. The use of priority alone as a basis for preference ratings would favor the members in the dry-land over those in the irrigated portion. Some carefully devised method, combining priority and commensurability ratings, will perhaps be essential for whatever modified basis of distribution is worked out.

The present period of understocking appears to be a highly strategic opportunity for determining range preferences. Detailed information should be secured for this purpose. At the time the Buffalo Creek grazing association was organized, information was obtained from members regarding the number of livestock they had grazed in the district in the past and the acreages of different feed crops and

pasture within their operating units. This information was used as a rough basis for distributing preferences for the 1936 grazing season. Since 1936 there has been no allocation of preferences to members due to the understocked condition of the range and the availability of far more range than could be utilized by all the members. During the past 3 years the membership in the association has changed greatly and there have been numerous changes in the set-up of operating units, including changes in number and type of livestock owned, acreage and type of feed crops produced, and acreage of pasture land controlled. Unless some organized system of current reporting and record-keeping is developed, the association may find it extremely difficult to work out a fair and equitable distribution of preferences.

RECENT FEDERAL PROGRAMS AFFECTING LAND-USE ADJUSTMENT IN THE BUFFALO CREEK GRAZING DISTRICT

Since 1933 a number of new Federal programs has been inaugurated throughout the country. Some of these programs have been designed specifically for agricultural and land-use adjustment, while some of them, designed primarily for other purposes, have had a significant effect on such adjustments in many areas. A number of these programs has had a marked influence on the trend of land-use adjustment in the Buffalo Creek grazing district.

Agricultural Adjustment and Conservation Programs

Agricultural Adjustment Act

The program developed under the original Agricultural Adjustment Act of 1933 proved to be poorly adapted to the climatic limitations of the Buffalo Creek area, and probably encouraged many people to continue cash-crop farming, when all indications pointed to the fact that this was not a farming area. In 1933 and 1934 there were 79 operators in the dry-land portion of the district who cooperated in the program. The amount of the 1933 and 1934 benefit payments to these operators varied from a few dollars to over \$1,000 per year, with an average amount per operator of \$235 in 1933 and \$268 in 1934. In 1935 there were 74 operators who received wheat payments ranging up to \$1,350, with an average of \$306, and there was a marked tendency on the part of some operators to expand their base acreages by leasing so that they would be assured of a payment of at least \$300 to \$500 which would provide subsistence in the almost certain event that there would be no satisfactory crop raised.

Soil Conservation and Domestic Allotment Act

The basis of payment under the Agricultural Adjustment Administration program was changed in 1936 from benefits for production adjustment to payments for soil conservation, although wheat benefit payments were retained for some operators for the 1936 season. A total of 60 operators in the dry-land area were under either the wheat or the conservation

programs, 24 being under both. The average conservation payment was \$183 per operator and the average wheat benefit payment was \$250. The total average payment for both programs was \$304. As in 1935, there was some activity on the part of several operators to take on more land by leasing so as to get a benefit payment large enough to insure subsistence.

Of the 93 operators in the area during the 1937 season, 71 were cooperating under the conservation program. In addition to these, there were 4 others who were under the range program but not under the crop program. Of total operators there was a much larger percentage in the area cooperating under Agricultural Adjustment Administration programs in 1937 than had been the case in previous years.

Range and Restoration Land Programs

These two programs are probably better adapted to the types of agricultural readjustment needed in an area such as the Buffalo Creek grazing district, which is distinctly submarginal for crop production, than any of the previous programs of the Agricultural Adjustment Administration. The range program, which provides a direct subsidy to the operators to enable them to make certain necessary improvements on grazing lands, has not reached very many of the operators directly--only 11 in 1936 and 1937--and for the most part these were the larger livestock operators. The 1936 payments were quite small, averaging about \$82, the largest being but \$294. The 1937 payments probably averaged somewhat more. The Buffalo Creek Cooperative Grazing Association has taken advantage of this program to finance some needed development work on its long-term leases. The extent of this development work, primarily dam-building to provide stock water, is indicated by the amount of payments, \$1,362 in 1936 and \$2,538 in 1937.

The restoration land program fills a need long felt in this area--that is, to get plowed land back into grazing use. Data on the extent and operation of the restoration program in this particular area are not readily available, but judging by results of investigations in other areas, ^{21/} there are probably two principal classes of owners who would come under such a program: first, the large livestock operators who have acquired control of some "up-side-down land" along with sod land; and, second, corporate and nonresident owners who have not been able to get satisfactory leases for their land. In the case of the first group,

^{21/} Kifer, R. S. and others. "The Restoration Land Phase of the Agricultural Conservation Program, 1938, in the Northern Great Plains States with Suggestions for Future Programs". Unpublished manuscript of Program Planning Division, Agricultural Adjustment Administration, Washington, D. C.

the restoration program would have only a slight effect on adjustment because much of this land is already being allowed to revert to grass. On the other hand, the subsidy payments can be justified on the grounds that they make it possible for operators to undertake expensive reseed-ing operations (thus speeding up the natural restoration processes), and that the restrictions imposed upon cooperators may have some effect in holding the tracts designated as "restoration land" out of crop production in the future. Nonresident-owners are interested in the program because the restoration payments over the 3-year period will possibly equal or exceed probable income from sharecrop leasing, unless there are some exceptionally favorable crop years. In some cases this might mean that the present wheat farmers on absentee-owned land will be unable to renew their leases and will be forced either to shift from wheat to livestock farming or to leave the area entirely. From this it appears that the restoration program will not only have some effect on land use, but will also change the present operating units--disintegrating some, building up others.

It is the opinion of a large number of operators in the Buffalo Creek district that the agricultural conservation program in this area should be so modified as to discourage continued attempts at wheat farming, and that greater emphasis should be given the range restoration program.

Crop Insurance Program for Wheat

Experience has shown that wheat farming is an uneconomic venture in the Buffalo Creek district and there is little reason to believe that this situation can be changed by the crop insurance program. Wheat insurance contracts were accepted on only 4 farms in the district in 1938 (the first year of the program) and 3 of these were Federal land bank farms on which only the bank's share of the production was insured. The premiums, in terms of bushels of wheat, paid on the 4 farms represented 25, 27, 28, and 31 percent of the insured production. Average per-acre yields of wheat on the 4 insured farms are approximately double the average for the entire district, and crop loss, on which premiums are based, is probably considerably lighter on these farms than on most farms in the district.

There is little likelihood that any significant number of insurance contracts will be signed for the spring wheat crop in the district. The risks involved in wheat farming in this area are so high and so continuous that merely spreading them evenly over a period of years will do little toward solving the fundamental difficulty. There must be an adjustment in the direction of more suitable uses of the land in the area.

Rural Rehabilitation Program

The Federal Rural Rehabilitation program, administered by the Farm Security Administration, provides loans for operating capital and

guidance for needy families operating family-sized units, grants for emergency subsistence and medical needs, and other services to distressed farm families. From March 1936 to June 1938, 33 families in the Buffalo Creek district received emergency grants under this program. The amounts of these grants varied from \$18 to \$187, the average being about \$146. Eighteen families received less than \$100 and 5 received more than \$300. Twelve families receiving these grants also received aid from county welfare grants.

Opportunities for rehabilitation in place within the dry-land part of the district are practically nonexistent because soil and climatic conditions made this an exceedingly poor area for ranch headquarters and winter feed bases. Up to the middle of June 1938 rehabilitation loans under this program had been made to only 13 operators in the dry-land area of the district, these loans ranging from \$50 to \$3,750, and averaging about \$800. Only 4 of them were for amounts exceeding \$1,200.

Although the rehabilitation program has not been a major factor influencing land-use readjustment in the Buffalo Creek district, it may in the future play a much more important part in encouraging the establishment of more satisfactory ranch headquarters and in restocking the range as its cover becomes more abundant and stable.

Miscellaneous Relief Programs

This area has had an exceedingly high relief load for a number of years. Several relief agencies--State, local, and Federal--have been set up to ameliorate the human distress and suffering occasioned by crop failure, unemployment, low prices, drought and insect ravages.

From 1935 through 1937, a total of 23 families in this area received county welfare grants, averaging about \$109 per family. Some of these families were "on the county" for only a month or so and received only a few dollars (9 received less than \$50 each during this 3-year period), while others were apparently perennial relief cases. During this period, 1 family received a total of \$342 and 3 others received over \$260. This type of relief was superseded for the most part in 1936 by the program of emergency grants handled by the Farm Security Administration. There were over 20 county welfare cases in 1935 with an average of \$115 per case, but only 3 in 1936 and 7 in 1937, with an average per case of \$25 and \$18, respectively.

In the spring of 1938 one family received aid for dependent children at the rate of \$11 per month, 23 cases received old-age assistance at an average of \$19 per month (both under the Social Security program), and one case of county general relief received \$13 per month. No data were secured on the number of men employed on Works Progress Administration projects nor the amount of money spent on these projects.

Many families received aid from two or more of these various agencies, and including those on Works Progress Administration, probably

well over half of the operators in this area were being supported, at least partially, by the various relief agencies. There is no way of telling just how much of this relief burden was occasioned by general business depression and unemployment, how much by serious drought and grasshopper infestation, or how much by the faulty land use and uneconomic operating units found in this area. In fact, it was the combination of all of these that made the situation so serious. The significant fact is that since there were few opportunities elsewhere and there were strict residence requirements for qualifying under the various relief programs, many operators, who otherwise might have left the area, have stayed, thus preventing shifts in land use demanded by the ruthless physical limitations arising from soil and climatic factors.

Land-Use Adjustment Project

During the winter of 1937-38 a Federal land-purchase project 22/ was set up in the Buffalo Creek grazing district to purchase land "sub-marginal for crop production". The land purchased is to be regrassed where necessary and leased either to the Buffalo Creek Cooperative Grazing Association or directly to livestock operators in the area under controls designed to insure the proper use of the range. A comprehensive plan of development work is being outlined which includes reseeding, contour furrowing, rodent control, salvaging abandoned farmsteads, and construction of livestock-watering facilities.

Local Recommendations for Purchase

Tracts were recommended for purchase by the county planning board and the board of directors of the grazing association. For the most part, the tracts recommended were the lands both resident- and nonresident-owned, on which units were too small to offer much possibility for a shift to a profitable livestock enterprise. In addition to these, the lands owned by several sheepmen, whose operations complicated the grazing economy of the area, and a number of tracts needed for stock-water development sites, were also recommended.

The original recommendations for purchase covered about 70,000 acres, but subsequent recommendations to offset the acreage which owners refused to sell and the recommendations for purchase of water development sites brought the total to 145,000 acres. On December 15, 1938 options had been secured on approximately 70,000 acres, most of which can be purchased under the present budget. These recommendations include all or part of 92 operating units, 19 of which are being operated by members of the Buffalo Creek grazing association, 54 by nonmembers, and 19 of which there were operators in 1937 but not in 1938. During 1937, 34 of these 92 operating units were operated by full-owners, 21 by tenants who owned no land, and 37 by operators who owned part of the land they used.

Progress of Purchase Program

On December 15, 1938, purchase options had been secured for the land comprising 52 of the operating units in the district and in 44 of these cases acceptance of the options had been made by the Federal Government. The owners of the land, comprising 25 operating units, indicated that they did not wish to sell and the owners of 15 other units either had not been contacted or were undecided whether or not to option. The status of the purchase project in December 1938 is shown in Fig. 8.

There are several reasons why the owners of these 25 units do not wish to sell. For one thing, some of them were borderline cases as far as the tract selection work of the county planning board was concerned, and doubtless felt that they could expand their livestock enterprises in the future by lease or purchase and by acquiring grazing privileges on project lands. Six of these operators now have over 2,000 acres each, and if they had sufficient hay meadows or cropland to supplement the available winter grazing, some of their holdings could possibly be expanded into economic operating units. Price considerations are also probably important factors. This is indicated by the fact that three owner-operators who have already left the area have refused to sell their land.

Obstacles Encountered by Purchase Program

Of the 22 operators remaining in the area whose lands were recommended for purchase but who do not wish to sell to the government, all but 5 have received some sort of government payments during the past few years. Six of them have been getting seed loans, 7 have had Farm Security emergency grants and/or county welfare grants, 2 are now receiving Social Security old-age assistance, 4 are receiving State school transportation warrants in addition to relief and assistance, and 17 have received Agricultural Adjustment Administration benefit payments. Of this latter group, all but 4 are receiving grants and assistance in addition to Agricultural Adjustment Administration payments. Seven of these operators received more than \$250 each from the 1937 conservation program, amounts large enough to allow at least subsistence on their dry-land farms. Just how many of these are securing work relief under the Works Progress Administration is now known.

It is seen from the above data that in some cases the Federal land purchase program has to compete with the relief agencies in order to secure the tracts needed for the use adjustment of the area. The value of the farmstead as a place to live, together with the right to receive the relief subsidies and assistance which attaches to residence in the community when a living cannot be made from farming operations, has enhanced the value of these tracts in the eyes of the operators to a point above the appraised values placed on these farms by the acquisition program.

If it is assumed that the only operating units to be displaced are those on which the government has obtained options prior to December 15, 1938, there will be 53 units remaining in the area, a reduction of 39 from the present number. As would be expected, there are fewer members of the Buffalo Creek Cooperative Grazing Association being bought out than there are nonmembers. About 11 members and 41 nonmembers will be displaced. At the present time 31 percent of the operators in the dry-land section are members of the association, but after Government purchase the percentage of members will be considerably larger. Moreover, since most of the project lands will be turned over to the association for management, the association and its members will have a higher degree of legal control over the area than they now have.

SUGGESTED LINES OF ACTION FOR FURTHER LAND-USE ADJUSTMENT IN THE BUFFALO CREEK GRAZING DISTRICT

Recommended Future Land Use and Occupancy

Past experience of operators in the district supports the conclusion that cash-cropping cannot be economically conducted in the dry-land portion of the district, while the production of feed crops offers little greater hope for success, except in those few cases where flood irrigation has been or could be developed. The most hopeful avenue appears to lead to the development of a new relationship between the grazing of livestock in the dry-land part of the district and the production of cash and feed crops in the adjacent irrigated farming area.

In view of the scarcity of desirable locations for ranch headquarters in the dry-land part of the district, it appears desirable as a long-time goal to encourage concentration of settlement in the irrigated area or the territory immediately adjacent to it and to encourage utilization of the dry-land area strictly for grazing. Such a pattern of occupancy would permit the most economical provision for schools and roads and should encourage the development of relationships between grazing and irrigated farming which will be conducive to greater stability and more likely success in livestock operations. It cannot be expected, of course, that a transition of this nature can be accomplished in short order and operations immediately brought in line with the proposed pattern of occupancy. Nor can it be expected that any uniform combination-type of operating units will be set up in accordance with a prearranged pattern. Some operators may have facilities for running only a small number of livestock in combination with their farming operations; other will be in a position to depend upon their livestock to an equal or greater extent than upon farming; and still others may wish to conduct a purely livestock enterprise and purchase a large portion of their winter feed from neighboring farmers.

The attainment of the long-time goal which has been briefly described above will necessitate action along numerous lines and will demand a maximum of cooperation and coordination of effort; however the possibilities of definite progress are sufficiently obvious to justify an

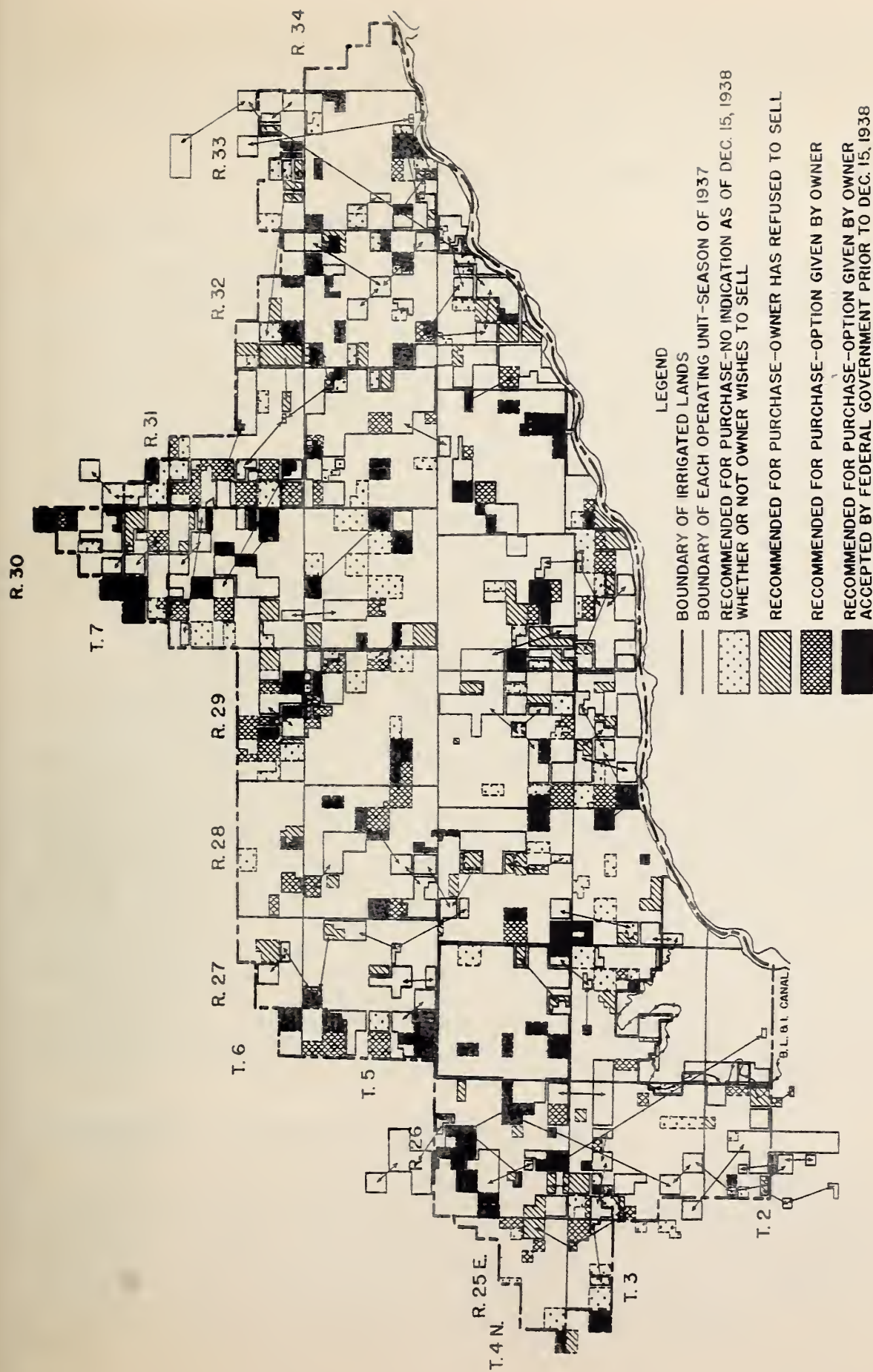


Figure 8. - Status of Federal land acquisition program in the Buffalo Creek Grazing District, December 15, 1938.

immediate beginning. The following lines of action are discussed below: (1) grazing association operations, (2) family relocation, (3) rural zoning, (4) soil conservation districts, and (5) coordination of various adjustment programs operating in the grazing district.

Grazing Association Operations

Grass Conservation Commission

The accomplishments of the Buffalo Creek grazing association to date indicate that its continued operation can materially further the attainment of the long-time goal outlined above. It has already assisted and guided the Land Use Adjustment Project in its selection of tracts for purchase, and its informed and interested membership may be expected to continue to take progressive steps to meet land-use problems within the area. In order to operate with greatest efficiency, however, it should have someone to assist it in meeting the many peculiar problems presented in the daily operations of grazing associations, in maintaining adequate records, and in planning its operations on a sound financial and economic basis. The Montana Grass Conservation Commission is empowered to perform this function under the 1939 revision of the grazing association laws; however, its operations have been hampered by a lack of funds.

Grazing associations are vested with broad powers under the 1939 grazing law, powers that are subject to abuse and misuse in the hands of an association concerned only with its own immediate self-interests. Although there are no indications of it in the Buffalo Creek area, grazing associations may develop monopolistic tendencies. This is particularly true in their operations respecting the leasing of grazing land, considering applications for membership, dealing with nonmember operators in the district, and apportioning grazing rights and range to members. The nature of grazing association organization and operating procedure may in some cases permit associations to exercise an unduly strong influence in determining lease prices; to discriminate against certain applicants for membership in the association; and to exert an undue pressure on nonmember operators to induce them to comply with grazing practices adopted by the association. Abuse of the privileges accruing to grazing associations through organization can only lead to reactions unfavorable to the associations and their objectives, and may go so far as to cause the State to seek their disorganization.

Improvement of Grazing Association Finances

The present weak financial condition of the Buffalo Creek grazing association must be remedied if it is to operate successfully. Although its present plight is primarily the result of a series of extremely unfavorable years on the range, there are a number of steps that may be taken to hasten improvement of its financial standing and to lessen the financial shock of unfavorable seasons in the future.

The association's overhead costs—directors' expense, secretary's salary and expense, and range rider's salary—constitute a considerable portion of its total expenditures, and may serve as a starting point in effecting economies in operating costs. Directors' expenses appear to be unusually high and could perhaps be cut considerably by limiting meetings to the number absolutely essential for taking definite action on major problems affecting the association or its members. Many actions of a lesser nature could be delegated to the secretary or to the range rider, both of whom are responsible to the board of directors. A further economy might be effected through cooperation with one or more of the neighboring grazing associations in jointly employing a secretary.

The practice of subletting grazing lands at the same rate paid for them by the association should be dropped, and all subleases should be at a price sufficient to pay a portion of the overhead expenses. Otherwise, the sublessees escape a just share of the overhead expenses and shift the burden to other members. It would seem that a surcharge of from 25 to 50 percent of the cost to the association would not be excessive.

Since the expenses of an association other than its land charges are relatively fixed and do not increase proportionately as it acquires additional range, it would seem advisable for the association to enlarge its lease holdings as rapidly as stock can be found to utilize the increased range. The overhead costs will thus be spread over a larger base and will constitute a decreased percentage of the grazing fee, permitting the association to charge either lower fees, to construct more range improvements, or to build up a larger reserve fund.

The existing practice of leasing grazing land at a fixed rate per section year after year invites financial instability unless the rate is equalized at a figure which represents the average annual grazing value of the land over a period of years rather than the value during a better than average season. If a more flexible leasing arrangement could be adopted, providing for variable lease prices related to carrying capacity, rate of stocking, and livestock prices, the ill effects of climatic and price fluctuations might be lessened in intensity. Such an arrangement raises the question as to the division of the risks, incident to fluctuation, between landowners and stockmen.

From an analysis of economic data on ranch organization, production costs, and selling prices of beef, lambs, and wool on Montana ranches over a period of years, the Montana Experiment Station has derived approximate lease values of Montana range land on a per-acre and a per-head basis under varying beef, lamb, and wool prices. ^{23/} These data might serve as a starting point in working out lease agreements

^{23/} Saunderson, M. H., and Bolster, H. G., "Lease Values of Montana Range Land", Mont. Agr. Exp. Sta. Mimeo. Release. Also Saunderson, M. H., "A Method for the Valuation of Livestock Ranch Properties and Grazing Lands", Mont. Agr. Exp. Sta. Mimeo. Cir. #6, March 1, 1938.

providing for variable payments for range land.

The association might add to its income by taking in outside stock when its members are understocked. In this manner the disparity between fixed expenses and members' grazing fees during periods of understocking could be reduced or eliminated. Frequently there are outside operators who are in position to take advantage of such an opportunity to obtain temporary grazing permits, in some cases importing livestock from a considerable distance. It will be necessary to ascertain considerably in advance of the beginning of the grazing season the amount of livestock to be turned out by members in order that the availability of temporary permits may be advertised widely.

If the association is to be operated as a business organization, definite policies must be adopted in determining lease prices and grazing fees in order to provide greater stability in association finance, rather than following a haphazard policy of spending money when the treasury is flush and curtailing expenditures and incurring indebtedness when it runs low.

The association should attempt to build up a cash reserve in good years to strengthen its position during the bad years that may be expected to occur. In order to do this it may be necessary to increase the grazing fee and set it at a figure which will more than cover the expenses of leasing and operating during years when the range is fully stocked.

The creation of a cash reserve, whether called "undivided income", or by some other term, will raise questions concerning the interest each member possesses in these net assets of the association, which interest, in a true cooperative association, is calculated in proportion to the patronage of the member. Grazing fees, of course, measure the patronage of the members of a grazing association, and the correct method of determining the interest of each member would be to divide the "undivided income" for each year among the members in proportion to their grazing fees paid for that year. The amount so determined need not actually be paid to the member until the association determines that it would be advisable, which may not be for several years after the division has been entered on the association's books. Any moneys collected by assessments and their expenditure should be kept in a separate account to avoid confusion. If the above suggestions are followed, the total interest of a member in the assets of the association could be determined by adding his share in the "undivided income" to his share in the assets acquired through the collection and expenditure of assessments.

Improvement of Land Control by the Association

In order that the Buffalo Creek Cooperative Grazing Association may continue as a potent factor in stabilizing the livestock industry in the grazing district, it will be necessary for it to strengthen its

control over the range land. The relatively minor degree of land control which the association now has will not enable it to exert a sufficiently strong influence toward improved land use in the district to discourage speculative ventures detrimental to the best interests of established operators.

The Federal land-purchase program will add considerable strength to the association's land control. The removal of a number of operators that are not engaged in livestock production, and others whose operating units are so small or otherwise deficient as to offer little promise of being built up to a successful status, eliminated some of the association's most likely sources of conflict between uses of land. In addition to clearing out conflicting uses, the purchase program will add directly to association land control approximately 68,000 acres, 24/ since the purchased land will probably be leased to the association as is done in other purchase project areas in the State. Several of the operators who are selling their land to the Federal Government have been leasing a considerable portion of the land that makes up their operating units. As these leases are dropped by the vacating operators, they will be available to the association or to the individual operators remaining in the area.

Many of the tracts being purchased by the Federal Government were selected because they afforded opportunity for improvement and development of stock-water facilities. The development of such facilities on land which will be leased subsequently to the grazing association, will improve the association's control over surrounding range land. The building of boundary and drift fences incident to the development program on the Federal lands will also improve land control within the grazing district.

Tax Adjustment in Line with Productive Capacity

The big problem which still confronts the grazing association in its attempt to gain control of range land is the difficulty of working out a satisfactory relationship with the owners of the large acreage of land remaining in private ownership. One of the principal factors responsible for this difficulty is the disparity between taxes and the productive value of the land for grazing purposes, despite the fact that taxes in this area have already been reduced an average of 66 percent during the past 10 years.

Taxes on grazing land currently average about \$23 per section, while the association's lease price is only \$15. Following improvement of the range under managed grazing and the restocking of the range to utilize the increased carrying capacity, the association will be in position to pay higher lease rates. However, it is not likely that lease prices can ever reach a satisfactory relationship with the current

24/ This amount will be purchased under the budget for the current year.

rate of taxation. This means that a further reduction in taxes is necessary to make it possible for landowners to cooperate with the association in improving the stability of the district as a livestock-producing area and to receive an annual income from their lands in excess of taxes.

There are two phases to such a tax adjustment program, the first of which would be to make the basis of the tax system more equitable by changing the assessment of individual tracts from the present flat-rate value of \$2 per acre to a variable scale based on productivity. Land actually being tilled should be returned to the "nonirrigated tillable" classification, and land developed into hay meadows by flood irrigation should either be classed as farming land, or should be given a special classification of a higher value than the average run of range land. A detailed range survey would provide the most satisfactory basis for determining the productivity rating or carrying capacity for each tract of grazing land. Of course, such a survey probably would not be made primarily for assessment purposes, but would be used principally for determining the future use, management, and stocking of the range. It would also enable the association to establish more equitable lease rates instead of the present uniform per-section rate, and would provide a basis for informing landowners of the true value of their lands.

Studies of the Montana Experiment Station indicate that the capital value of one animal-month grazing capacity is about \$4.60. ^{25/} Since the grazing survey would show the carrying capacity of each tract in animal-months, the assessed value of a tract could be determined by multiplying \$4.60 (or some other capital value) by the number of animal-months as shown by the survey. The productivity ratings of each tract could be adjusted periodically as the range improves or deteriorates, by estimates of change in species and forage density made from observations on permanent quadrants located throughout the area.

Because of the present low carrying capacity, the above method of assessment would result in a reduction of assessed value of range land by about 50 percent. However, a reduction of 50 percent from the present assessment of grazing land would not create any financial problems for Yellowstone County, because the taxable value of grazing lands is now less than 3 percent of the total taxable value of the county.

The second phase of the tax reduction program would be an adjustment in millage levies. The levies of Yellowstone County and the State would not be affected noticeably by either the purchase program or the assessment revisions outlined above, but school district levies would be quite responsive to both of these adjustments. A reduction in school costs would have to accompany the reassessment program or else increases in school district levies would offset to some extent the tax reduction made possible by the decreased assessments. The reorganization of schools

^{25/} Saunderson, M. H., "A Method for the Valuation of Livestock Range Properties and Grazing Lands". Op. cit., p. 10.

already accomplished has resulted in reduced public expenditures for education. Any further reduction in school costs will depend largely on the relocation of families, but even with the shifts in population as a result of the land acquisition project and other programs there will, no doubt, be a number of isolated families remaining in the area. School costs could be kept low if the present custom of many families of moving the mother and children to town during the school months were adopted by all isolated families.

Continuation of the Leasing of County Lands

The present agreement by which the Buffalo Creek grazing association leases lands, within the district, which become the property of Yellowstone County should be continued. Such a policy appears to be in the best interest of both the county and the association. It gives the association a lease on a large acreage of land without the necessity of cumbersome negotiation, tract by tract, which is required in acquiring leases from private owners. It also gives the association a feeling of greater security and stability in its leasing arrangements and land control than would be the case in the absence of such an agreement with the county. Through leasing to the grazing association, the county has a ready outlet and source of income from all county land within the grazing district, and at the same time has some assurance that under managed use the land will be used conservatively and will even be improved.

The 1939 legislature enacted a statute 26/ which allows boards of county commissioners to develop a sound program of county land management with respect to grazing lands. It permits grazing lands held by the county to be leased, not subject to sale, for 5 year periods, except that when they are within grazing districts they may be leased for 10 years. It also permits lease rentals to vary according to the carrying capacity of the land and allows boards of county commissioners, with the advice of the county agricultural planning committees, to adopt rules and regulations relative to land-use policies, and to subject the leases to such rules. This legislation has overcome the major defects of the prior laws. It is believed, however, that the laws relating to county land management can be further improved. Among the improvements that might be desirable are the following:

1. All lands to be classified before disposal into 2 major groups, namely (a) lands suited only to public use, (b) lands suited to private use. This would eliminate the useless gesture of offering lands for sale that cannot possibly be sold, and would decrease the expense of such sales.
2. Lands in class (a) (public use) to be subject to long-term leases up to 10 years and not subject to annual sale requirements.

3. Lands in class (b) (private use) to be immediately appraised and offered for sale, with a provision for 10-year sale contracts. The commissioners might be authorized to issue deeds containing covenants running with the land to prevent the future cultivation of grazing land.

4. Lands not sold at their appraised value could be subject to reclassification as class (a) and removed from the requirement for sale.

5. The commissioners might be authorized to permit dams, wells, and other water facilities to be constructed on leased grazing land, and either decrease its lease rates to compensate the lessee, or require the next lessee to compensate the former for his expenditure, less depreciation.

Improvement of Grazing Association Operating Procedure

The Buffalo Creek grazing association must adopt an improved system of record-keeping if it is to be in a position to work out an equitable distribution of grazing preferences when the range is more fully stocked. A satisfactory system of record-keeping cannot be developed by the secretary alone, but demands the cooperation of the individual members in currently reporting the organization of their operating units. The assistance of the Grass Conservation Commission should be enlisted in setting up a record system and keeping it up to date.

Since land use and the organization of operating units in the Buffalo Creek district have been in a state of transition for many years, it is practically impossible to make an equitable distribution of grazing preferences to members according to any fixed rule. Such being the case, a fixed rule might be used only in arriving at a preliminary distribution, and the figures thus obtained could be modified by the association directors with the cooperation of the entire membership. It appears probable that the directors could best work out such a preliminary distribution on the basis of the commensurate property ratings of members. They could then raise or lower the figures thus obtained if they seemed to be unfair, giving particular consideration to priority. Priority will be of only limited assistance because of the major shifts in operating units in recent years, but it will no doubt be of some help, particularly in the case of the dry-land operators. A copy of such adjusted preliminary distribution might be sent to each member of the association, and anyone objecting to his rating could file a protest with the secretary for the consideration of the board of directors. If the directors wished to grant a hearing upon a protest they could do so and then make any final adjustments which appeared desirable. Disputes that could not be settled by the directors might be submitted to a board of three arbitrators, one appointed by the directors, one by the protesting member, the third by these two. In this manner it should be possible to arrive at a final preference

rating representing the best interests of the association and acceptable to each member.

No great difficulty is likely to be experienced in working out a distribution of preferences as suggested above, for it is highly probable that under present conditions the total preferences thus determined will not absorb all the available carrying capacity in the district. The remaining range could be granted either to members or non-members under temporary permits or could be assigned to new members who join after the original distribution has been made. It is important that a distribution be worked out as soon as possible in order that resident operators may have an opportunity to establish satisfactory units before there is an influx of new members or outside stockmen to utilize the available range.

Some of the matters that the board of directors might well consider in adjusting the preliminary distribution of preferences include recognition of the fact that: (1) the probable best use of the Buffalo Creek grazing district will be obtained when the stockmen reside within or immediately adjacent to the irrigated valley and produce enough feed to winter the livestock they run in the district during the summer grazing period; (2) many of the members of the association are engaged in both farming and stock-raising and some only in stock-raising; and the interests of one group should not be prejudiced in favor of the other; (3) perhaps some members whose priority and commensurability ratings are relatively low might be given preference ratings sufficiently high to permit them to establish more satisfactory or economic units, provided such ratings do not unduly prejudice the interests of other members of the association.

The Buffalo Creek grazing association could no doubt strengthen its position as an adjustment agency, as well as its land control and finances, by acquiring a more complete membership among the livestock operators in the district. A number of nonmember operators, as well as some members, will move from the district as a result of the Federal land-purchase program. It is to the advantage of the association to solicit membership from all operators in the district, since a reduction in the number of nonmembers will lessen the likelihood of conflicts regarding range land control and trespass, and will enable the association to enlarge its range and better its financial condition.

Family Relocation

The Buffalo Creek Cooperative Grazing Association would be in a better management position if its range were free of farms and ranch headquarters. If a sufficient number of the remaining families relocated, an even greater benefit would accrue from the resulting economy in the provision of public services. Although it is estimated that the number of families in the district has decreased from 800 at the height of settlement—about 1914 to 1916—to approximately 100 in 1938, and that the Federal land purchase program will reduce this figure by more than

half, optimum conditions cannot be reached until many of the remaining families have located elsewhere. It may not be essential that every one of them relocate, for some of them may not be causing unduly heavy public expenditures, nor will it be necessary that all relocations be made to the irrigated area, although any proposal for resettling within the grazing area by development of flood irrigation systems should consider the possible effect on public expenditures for roads and schools. The desirability of the removal of many of the remaining families does not mean that relocation should not be left on a voluntary basis, but rather that every effort should be made to inform the remaining families fully regarding the plans for future development of the area, and to offer them every possible encouragement in seeking more desirable locations.

If the Federal land-purchase program can be extended, it is possible that a few additional families may decide to take advantage of this opportunity to relocate. Modification of the agricultural and relief programs so as to discourage continued attempts at uneconomic farming and to encourage range development may provide an additional incentive for some families to take advantage of the land-purchase program, particularly those who are not interested in developing livestock units. Agencies extending credit can contribute to the readjustment by confining their loans to purposes which are clearly in harmony with the previously designated future best uses of land in the district.

Rural Zoning

As land once farmed is returned to grazing and as families relocate, the Buffalo Creek grazing district will approach its optimum use. At present however, there is very little possibility of preventing an influx of old residents or new settlers if climatic or price conditions become temporarily favorable. Maximum returns from the Federal land-purchase program and consequent family relocations cannot be secured as long as there is an opportunity for other operators to repeat the mistakes made by those whose land has been purchased. The association's control of range land and adjustment to more stable operating units may be endangered by the plowing up of land on which the restoration of the grass cover is already well under way. Some device is therefore necessary in order to consolidate the gains resulting from natural and publicly assisted adjustments, as well as those effected by the association, and to prevent a recurrence of the types of maladjustments being corrected. Rural land-use zoning would seem to meet the need. Before a land-use zoning ordinance can be adopted, however, it will be necessary for the Legislative Assembly to enact a county land-use zoning enabling act authorizing boards of county commissioners to adopt land-use zoning ordinances.

In accordance with the indicated probable future best use of land in the Buffalo Creek grazing district, it would appear desirable to adopt zoning restrictions covering practically the entire dry-land part of the district. Such restrictions should prevent any future

establishment of residences and any further plowing up of land in the dry-land area. The prevention of additional settlement alone would not provide the protection needed to encourage rehabilitation of the area for grazing purposes, since large acreages of land might still be plowed up by speculative operators living outside the district. Any land being cultivated or used for residence purposes at the time zoning restrictions were adopted would not, of course, be affected by them, and could continue to be used in the same way—that is, zoning would restrict only the establishment of certain uses in the future, and would not affect the continuation of such uses as were already established when the ordinance was adopted.

The prevention of additional settlement and cropping does not seem to be unreasonable in view of the past experience of operators in the district. There is fairly general agreement among them regarding the inadvisability of attempting to produce feed crops or cash-grain in the dry-land area. In order to provide for any possible future development of feed cropping and hay meadows that may appear feasible under flood irrigation, the original ordinance or subsequent amendments could contain suitable provisions.

Land-use restrictions under a zoning ordinance must, of course, depend upon the support of local people for their adoption and successful enforcement. All interested persons would be given an opportunity to be heard and to express their views before the adoption of such restrictions.

Coordinating Various Adjustment Programs Operating in the Grazing District

The attainment of improved land use and increased stability in livestock operations in the Buffalo Creek grazing district can be expected by more thorough coordination of the various adjustment programs operating in the area. A number of governmental agencies are conducting more or less independent programs in the district, each designed to deal with some specific problem or set of conditions. Effective coordination of these various programs demands that each agency fully understand the effect of its program upon land-use adjustments in the district, the nature and objectives of the programs of other agencies, and that all reach agreement regarding the types of adjustments that are desirable.

A very desirable beginning in this direction has already been made by the Yellowstone County Planning Board. Through this body a considerable amount of local thinking has been introduced into some of the programs operating in the county. With further development of the county planning program now being sponsored jointly by the U. S. Department of Agriculture and the Land Grant Colleges, there should be increased participation of local people in formulating and unifying the various adjustment programs.

The planning board, the Board of County Commissioners of Yellowstone County, and the board of directors of the grazing association,

with the support of a large number of people in the district, have formulated plans for desirable future land use and occupancy in the Buffalo Creek grazing district, as indicated above. Programs now operating in the area can do much to encourage adjustments in land use and occupancy in accordance with this plan if their activities are consciously directed toward such a common goal.

SUMMARY

Past Land Use and Ownership

Since the original entry of the white man into the portion of Montana now comprising the Buffalo Creek grazing district, successive efforts to utilize the land resources have covered a wide range of activities, each of which to date has resulted in disaster.

First opened in 1880, the area was immediately stocked to capacity with Texas cattle. The early livestock industry depended upon competitive year-round grazing. A period of overgrazing and drought, culminating in the severe winter of 1886-87, resulted in the virtually complete loss of stock and the collapse of the livestock industry.

During the period which followed, until about 1909, the livestock business was gradually reestablished on a more secure basis, each operator tending to carry only that number of stock for which he could provide an adequate supply of supplemental winter feed. While this development very likely would have succeeded if permitted to continue, it was destroyed by homestead settlement, beginning about 1909.

Homesteading reached its peak about 1914. The land was settled in 160- and 320-acre tracts, almost completely overthrowing the range livestock industry. Crop farming, which never achieved any notable success in the area, encountered two prolonged drought periods in which crop failure was practically complete. The first extended from 1919 to 1923, the second from 1923 to the current year. As a consequence, wholesale abandonment and migration from the area have occurred. Old settlers estimate that there were perhaps 800 families in the area in 1916. By 1920 the number had been reduced by one-half, and today there are not more than 96 operators remaining. These depend chiefly upon livestock. A speculative type of farming is nevertheless continued, to the detriment of all efforts to stabilize and regulate land use on the broad base of range-livestock grazing.

As farms have been abandoned, competition for free use of grazing privileges has begun. Migratory stock have been particularly troublesome, forcing resident operators to stock too heavily and too early in the season in order to get the grass. Efforts to curtail competition have been impeded by the high percentage of nonresident ownership resulting from abandonment, migration, and mortgage foreclosure. Many owners cannot be located; others, deluded by false notions as to the value of their holdings, refuse to lease their lands

at prices the stockmen, either individually or collectively, can afford to pay.

Tax delinquency has for many years been excessive in the area. Nonresident individuals and investment agencies of various types have been among the poorest taxpayers. State law and county policy for many years attempted to soften the rigor of penalties for nonpayment. Moratoria of various types appeared, however, to be of greater benefit to these classes of owners than to the resident owner-operators they were intended to help. More recently, State policy has favored a more vigorous tax procedure.

Present Land Use and Control

It is now generally agreed that the Buffalo Creek grazing district area is suited only to extensive grazing use. The keynote to past disasters has been the absence of control, by the livestock industry, over the range lands upon which it depended. The present period represents a transitional stage when land use is at a low ebb. The direction future use will take depends entirely upon the controls or directional efforts which are now devised. The process of farm abandonment and land-use adjustment is still continuing. In 1938, 40 percent of the land area, or 210,635 acres, was under no formal or legal control. These lands belong for the most part to over 400 individuals and corporations residing in 26 States. These owners either cannot be located or are unwilling to lease their lands at a price stockmen can pay.

This extent of uncontrolled land not only encourages competition for its use by livestockmen, which means overgrazing and depletion, but it also constitutes a danger that with a more favorable climatic cycle farmers may again invade the area and destroy the range.

The present low ebb of pressure on the land creates an unusually favorable opportunity for securing control of its use and erecting safeguards against future misuse. Several related activities are now working in this direction.

The Buffalo Creek Cooperative Grazing Association is securing long-term leases to the extent that its finances will permit. In 1938, the association held under lease 110,600 acres of land which, together with the holdings of members, gave it control of 35 percent of the area.

The Federal Government is purchasing land not suited to crop-farming, which will likely be leased to the association. Present options cover about 70,000 acres, most of which can be purchased with funds available. These are largely nonresident-owned lands in the "uncontrolled" class.

The county is now pursuing a vigorous policy of taking tax titles to reverted lands, which are then leased to the association. Where, previously, repeated efforts to dispose of lands by sale-contract resulted

in dismal failure, the county now has 85 percent of its present land-holdings under lease to the association, thereby assuring a considerable annual income to the county, and conservation of the range land in place of the depletion which occurred under competitive use. Under the existing agreement, any additional lands secured by tax-title automatically go under lease to the association.

These activities need the reinforcement of State enabling legislation to permit the county to zone the area against crop-farming and further settlement.

Policies Affecting Land Use

Not only early public land policy as embodied in homestead legislation, but also other policies, were imbued with highly optimistic ideas of the suitability of the Great Plains for farming, and all had corresponding influence upon the nature of settlement and land use. Homestead policy directly led to supremacy of the crop farmer over the range livestock industry. It was aided by credit policies, both public and private; by the policies of the State and railroads in promoting settlement of granted lands; and by State and county policies with respect to local government and taxation. Credit and relief, more recently, have tended to impede reconstruction, by subsidizing uneconomic land use, while taxation has had the same result by making responsible land control unprofitable. Latest developments in all three fields show a shift to policies more directly in line with desirable land use. This movement should be strengthened and continued.

The Buffalo Creek Cooperative Grazing Association

In order to substitute cooperation for destructive competition, and to curb the operations of irresponsible migratory stockmen, for the purpose of conserving the range resident livestockmen in 1934 organized the Buffalo Creek Cooperative Grazing Association. It has since been reorganized to absorb an adjacent district. Up to the present time the association has survived several trying difficulties. Membership and livestock grazing permits have fluctuated widely, with corresponding effects upon association income; land leases have been costly and difficult to obtain. There is the constant threat of speculative farmers coming into the area, or trespassing by outside stockmen, either of which may likely occur if climatic or price conditions take a favorable turn. Range rights have not been satisfactorily adjusted among members, who are rather indifferent since present stocking is far below carrying capacity of the range. Failure to allocate grazing preferences is merely storing up trouble for the day when the range is fully stocked and pressure for rights becomes intense. Together with lands of its members, the association has controlled 40 percent of the area. The percentage dropped to 35 in 1938, but is expected to increase with resumption of its leasing activities and the land acquisition programs of the Federal Government and the county.

Other Recent Programs Affecting Land Use

Of the numerous recent Federal programs relating to agriculture, the most promising of benefit to the area in question are the restoration land program of the Agricultural Adjustment Administration, the rural rehabilitation program of the Farm Security Administration, and the land purchase and development program now administered by the Soil Conservation Service. If administered with clear perspective as to types of land use which should and should not be encouraged, the two former programs will be of signal importance in bringing about a system of land use more in harmony with nature.

The land purchase program has been closely tied to the control efforts of the county and the grazing association by participation of both agencies in the selection of lands for purchase. As a consequence, the latter program has been of immediate and direct significance in promoting control and stability in the use of land.

Other Lines of Action Desired

The keynote to successful future land use in the Buffalo Creek district may be expressed as (1) the establishment and safeguarding of the proper complementary relationship between the summer range lands and the areas which constitute dependable sources of supplementary winter feed, and (2) establishment of a cooperative basis for distributing range rights in place of the ruthless competition which has existed in the past.

Some degree of control has already been achieved. Safeguarding of the ground gained, and further improvement, require continuation of present policies and programs and certain additional lines of action favorable to the livestock industry in general and to the cooperative grazing association in particular. These include:

- a. Continued land purchase and family relocation by the Federal Government. Rehabilitation loans and grants should be directed to the end of reestablishing present isolated families in or adjacent to the irrigated valleys. Restoration payments of Agricultural Adjustment Administration should be directed insofar as possible to range and stock water facility improvement.
- b. The county policy of taking tax titles and leasing its lands to the association should be continued.
- c. The association should extend its membership to include all resident and nearby operators who utilize the range within the district. In all its dealings, the association must treat all parties fairly and equitably, else its power may rebound to its own ultimate disadvantage.

- d. The association should make all possible efforts to extend its control through further leasing.
- e. The policy of reduction of assessments and taxes should be pursued to the point that taxes are brought into proper relation to lease values. This policy will be aided by land appraisal and classification according to productivity.
- f. In order to prevent a recurrence of past mistakes the State Legislature should enact legislation permitting counties to zone rural land areas. Pursuant to such legislation, Yellowstone County should zone the Buffalo Creek district area against further settlement and crop farming. Such measures would protect poorly-informed farmers from their own mistakes, as well as safeguard the gains already made by the cooperative grazing association in achieving land-use stability and control.
- g. All programs, Federal, State, and local, affecting land use in the area, should be coordinated at the county level in order that they may work harmoniously toward a common goal. This end will be advanced by working through the county planning committee as now sponsored by the United States Department of Agriculture and the Land Grant Colleges.

